

SONY®

SDDS Player System

FILM SOUND DECODER

DFP-D3000

SDDS Sony Dynamic
Digital Sound®

MAINTENANCE MANUAL

1st Edition

Serial No. 10001 and Higher (UC)

Serial No. 30001 and Higher (J)

Serial No. 40001 and Higher (CE)

⚠ 警告

このマニュアルは、サービス専用です。

お客様が、このマニュアルに記載された設置や保守、点検、修理など行くと感電や火災、人身事故につながる可能性があります。

危険をさけるため、サービストレーニングを受けた技術者のみご使用ください。

⚠ WARNING

This manual is intended for qualified service personnel only.

To reduce the risk of electric shock, fire or injury, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.

⚠ WARNUNG

Die Anleitung ist nur für qualifiziertes Fachpersonal bestimmt.

Alle Wartungsarbeiten dürfen nur von qualifiziertem Fachpersonal ausgeführt werden. Um die Gefahr eines elektrischen Schlages, Feuergefahr und Verletzungen zu vermeiden, sind bei Wartungsarbeiten strikt die Angaben in der Anleitung zu befolgen. Andere als die angegebenen Wartungsarbeiten dürfen nur von Personen ausgeführt werden, die eine spezielle Befähigung dazu besitzen.

⚠ AVERTISSEMENT

Ce manuel est destiné uniquement aux personnes compétentes en charge de l'entretien. Afin de réduire les risques de décharge électrique, d'incendie ou de blessure n'effectuer que les réparations indiquées dans le mode d'emploi à moins d'être qualifié pour en effectuer d'autres. Pour toute réparation faire appel à une personne compétente uniquement.

Attention-when the product is installed in Rack:

1. Prevention against overloading of branch circuit

When this product is installed in a rack and is supplied power from an outlet on the rack, please make sure that the rack does not overload the supply circuit.

2. Providing protective earth

When this product is installed in a rack and is supplied power from an outlet on the rack, please confirm that the outlet is provided with a suitable protective earth connection.

3. Internal air ambient temperature of the rack

When this product is installed in a rack, please make sure that the internal air ambient temperature of the rack is within the specified limit of this product.

4. Prevention against achieving hazardous condition due to uneven mechanical loading

When this product is installed in a rack, please make sure that the rack does not achieve hazardous condition due to uneven mechanical loading.

CAUTION

Danger of explosion if battery is incorrectly replaced.

Replace only with the same or equivalent type recommended by the manufacturer.
Dispose of used batteries according to the manufacturer's instructions.

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Manual Structure

Purpose of this manual

This manual is the Maintenance Manual of the Film Sound Decoder DFP-D3000. This manual is intended for use by trained system and service engineers, and describes the detailed service information with the intention of servicing based on the component parts.

Contents

This manual is organized by following sections.

Section 1 Service Overview

This section describes the installation, board location, removing cabinet, using the extension board, etc..

Section 2 Electrical Alignment

This section describes checks and adjustments required when the boards or its components have been replalced.

Section 3 Spare Parts

This section describes spare parts. (mechanical parts list, electrical parts list and supplied accessories list)

Section 4 Semiconductor Pin Assignments

This section describes the appearance, pin assignments, and function descriptions of semiconductors.

Section 5 Block Diagram

This section describes the block diagram of circuit board and circuit description.

Section 6 Board Layouts

This section describes board layouts. (the printed circuit patterns and printed symbols)

Section 7 Schematic Diagrams

This section describes the schematic diagrams of circuit board.

Related manuals

The following manuals are prepared for this unit.

- **SDDS Player System DFP-D3000/DFP-R3000 Operation Manual (Supplied with the DFP-D3000)**

This manual describes the application and operation of the DFP-D3000 and DFP-R3000.

- **DFP-R3000 Installation Manual (Prepared separately)**

This manual describes the information when installing DFP-R3000.

- **DFP-R3000 Maintenance Manual (Prepared separately)**

This manual describes the information of maintenance and the detailed service information with the intention of servicing based on the component parts.

Section 1

Service Overview

1-1. Installation

1-1-1. Operational Environment

Operating temperature : 5°C to 40°C
Operating humidity : 10% to 90% (relative humidity)
Storage temperature : -20°C to +60°C
Mass : 11 kg

Locations to avoid

- Areas where the unit will be exposed to direct sunlight or any other strong lights.
- Dusty areas or areas where it is subject to vibration.
- Areas with strong electric or magnetic fields.
- Areas near heat sources.
- Areas where is subjected to electricity noise.
- Areas where is subjected to static electricity noise.

Ventilation

The inside of the DFP-D3000 is cooled by air circulation by a fan (rear panel side).

The power supply can be damaged if the exhaust vent (rear panel) and air intake (front panel) are blocked or the fan is stopped.

Therefore, leave a blank space of more than 10 cm.

1-1-2. Power Supply

1. Capacity of AC Power Supply

The Power supply of the DFP-D3000 is shipped with the following power voltage setting.

Power supply voltage : AC 100 V to 240 V
DC 15 V (Back up, Use the unique AC adapter supplied with DFP-D3000.)

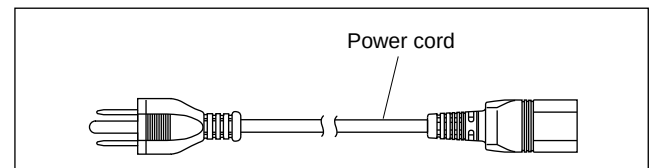
Power supply frequency : 50/60 Hz

Current consumption : 1.1 A
1 A (Back up)

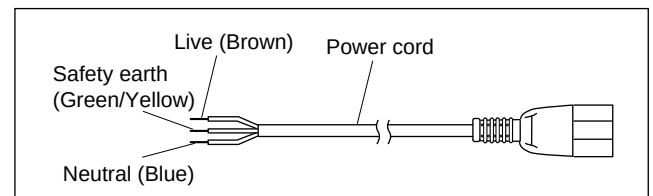
2. Power supply cord (supplied accessory)

The following power supply cord is included.

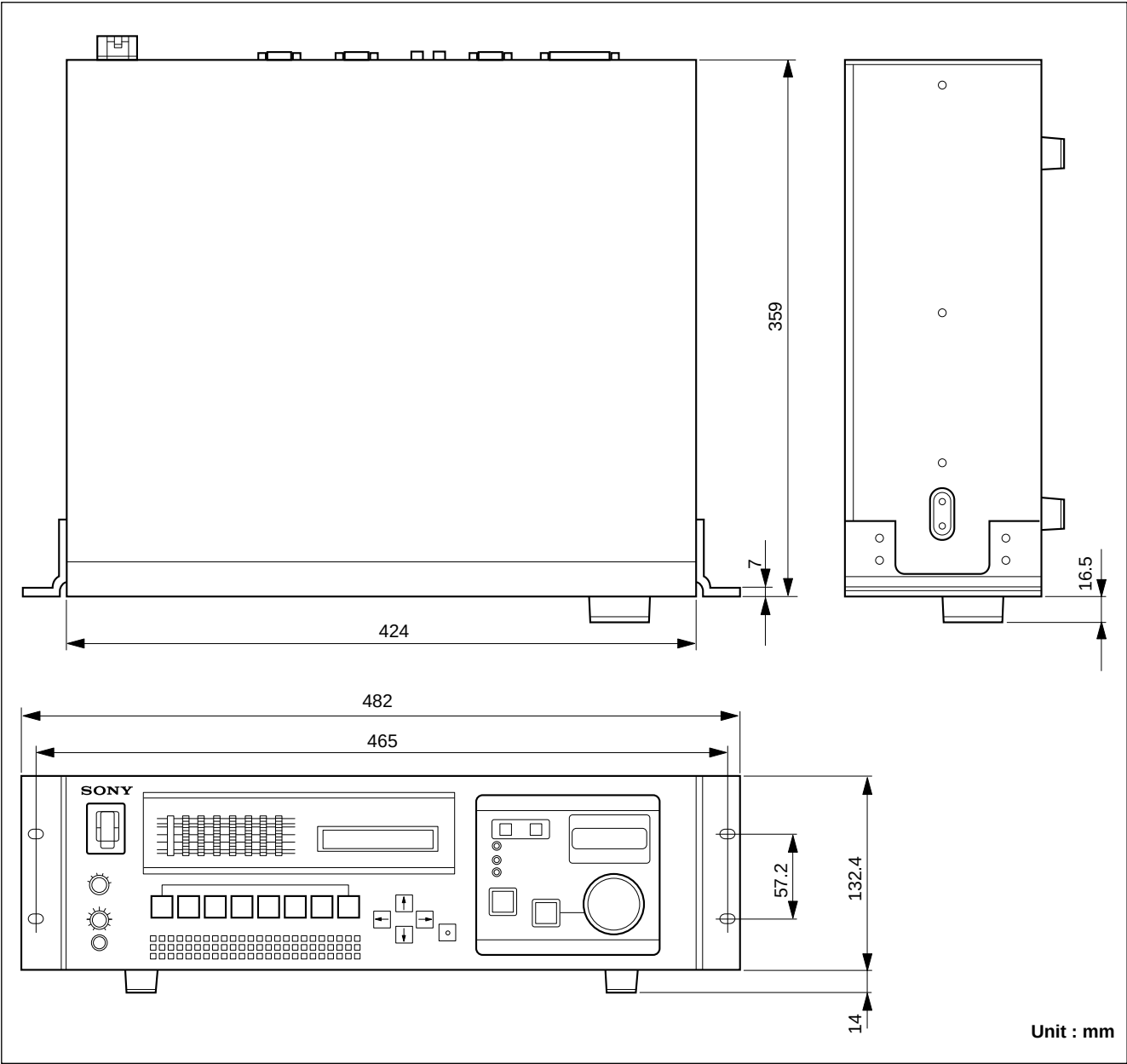
For UC



For CE



1-1-3. Demensions



1-1-4. Connector/Cable

Connect the following connectors and connection cables or equivalents to the connectors on the rear panel of DFP-D3000.

DFP-D3000 connector used at	Name	Connectors/Cables to be used name	Sony part number
OUTPUT			
MONITOR OUTPUT	D-sub 25P, male	D-sub 25P, female	1-563-817-11* ¹ (connector)
SYSTEM OUTPUT			1-563-827-11 (shell)
PHONES	D-sub 9P, female	D-sub 9P, male	1-560-651-00* ² (connector)
			1-561-749-00 (shell)
INPUT			
MIC INPUT	D-sub 9P, female	D-sub 9P, male	1-560-651-00* ² (connector)
			1-561-749-00 (shell)
AUX INPUT 1, 2	D-sub 25P, female	D-sub 25P, male	1-560-904-11* ² (connector)
			1-563-377-11 (shell)
NON-SYNC	RCA PHONO Jack	RCA PHONO Plug	—
PROJECTOR I/O			
READER 1, 2	DME 5W1S, female	Connection cable	1-783-382-11 (10 m) (supplied with DFP-R3000)
			1-783-382-21 (50 m)
OPTICAL 1, 2	D-sub 9P, female	D-sub 9P, male	1-560-651-00* ² (connector)
			1-561-749-00 (shell)
CONTROL I/O			
REMOTE LEVEL CONTROL	D-sub 9P, female	D-sub 9P, male	1-560-651-00* ² (connector)
RS-232C			1-561-749-00 (shell)
AUTOMATION	D-sub 37P, female	D-sub 37P, male	1-566-357-11* ³ (connector)
			1-563-378-11 (shell)

*1 : The following solderless contact are required for the socket.

AWG#20 to #24 : 1-563-813-21

AWG#24 to #26 : 1-563-814-11

*2 : The following solderless contact are required for the plug.

AWG#22 to #24 : 1-564-774-11

AWG#24 to #28 : 1-564-775-11

*3 : The following solderless contact are required for the plug.

AWG#20 to #24 : 1-566-352-21

AWG#24 to #26 : 1-566-353-21

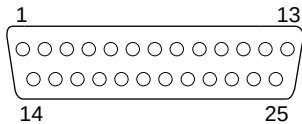
1-1-5. Input/Output Signals of Connectors

OUTPUT

MONITOR OUTPUT : D-sub, 25P, male

SYSTEM OUTPUT : D-sub, 25P, male

Analog audio signal (Balanced),
Reference output level –10 dBu,
Load impedance 600 Ω or more

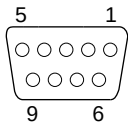


– EXT VIEW –

Pin No.	I/O	Signal name	Description
1	O	LEFT GND	Left ch balanced output (GND)
2	O	LEFT HOT	Left ch balanced output (HOT)
3	O	LEFT CENTER COLD	Left center ch balanced output (COLD)
4	O	CENTER GND	Center ch balanced output (GND)
5	O	CENTER HOT	Center ch balanced output (HOT)
6	O	RIGHT CENTER COLD	Right center ch balanced output (COLD)
7	O	RIGHT GND	Right ch balanced output (GND)
8	O	RIGHT HOT	Right ch balanced output (HOT)
9	O	SURROUND LEFT GND	Surround left ch balanced output (GND)
10	O	SURROUND LEFT COLD	Surround left ch balanced output (COLD)
11	O	SURROUND RIGHT COLD	Surround right ch balanced output (COLD)
12	O	SUB WOOFER COLD	Sub woofer ch balanced output (COLD)
13	O	SUB WOOFER GND	Sub woofer ch balanced output (GND)
14	O	LEFT COLD	Left ch balanced output (COLD)
15	O	LEFT CENTER GND	Left center ch balanced output (GND)
16	O	LEFT CENTER HOT	Left center ch balanced output (HOT)
17	O	CENTER COLD	Center ch balanced output (COLD)
18	O	RIGHT CENTER GND	Right center ch balanced output (GND)
19	O	RIGHT CENTER HOT	Right center ch balanced output (HOT)
20	O	RIGHT COLD	Right ch balanced output (COLD)
21	–	NC	No connection
22	O	SURROUND RIGHT GND	Surround right ch balanced output (GND)
23	O	SURROUND LEFT HOT	Surround left ch balanced output (HOT)
24	O	SURROUND RIGHT HOT	Surround right ch balanced output (HOT)
25	O	SUB WOOFER HOT	Sub woofer ch balanced output (HOT)

PHONES : D-sub, 9P, female

Analog audio signal (Unbalanced output),
Reference output level -10 dBu,
Load impedance $600\ \Omega$ or more



– EXT VIEW –

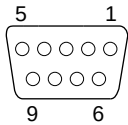
Pin No.	I/O	Signal name	Description
1	–	GND	Ground
2	–	GND	Ground
3	–	NC	No connection
4	O	HEADPHONE LCH	L ch output
5	O	HEADPHONE RCH	R ch output
6	O	MONO	Monaural signal output
7	O	MONO	Monaural signal output
8	–	NC	No connection
9	–	HEADPHONE GND	Ground

Note : Pin 6 and pin 7 are same signal. Headphone L CH and R CH (pin 4 and pin 5) output are same as HEADPHONES output on the front panel.

INPUT

MIC INPUT : D-sub, 9P, female

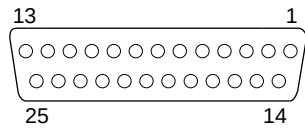
MIC input ; Analog audio signal, Reference input level -50 dBu,
Impedance $1.2\ k\Omega$ or more
LINE input ; Analog audio signal, Reference input level -10 dBu,
Impedance $10\ k\Omega$



– EXT VIEW –

Pin No.	I/O	Signal name	Description
1	I	MIC 1 GND	MIC 1 balanced input (GND)
2	I	MIC 1 HOT	MIC 1 balanced input (HOT)
3	–	NC	No connection
4	I	MIC 2 GND	MIC 2 balanced input (GND)
5	I	MIC 2 HOT	MIC 2 balanced input (HOT)
6	I	MIC 1 COLD	MIC 1 balanced input (COLD)
7	–	NC	No connection
8	–	NC	No connection
9	I	MIC 2 COLD	MIC 2 balanced input (COLD)

AUX INPUT 1, 2 : D-sub, 25P, female
Analog audio signal (balanced input),
Reference input level 300 mV (−8.2 dBu),
Impedance 10 kΩ or more



– EXT VIEW –

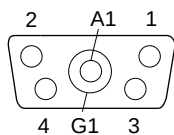
Pin No.	I/O	Signal name	Description
1	I	LEFT GND	Left ch balanced input (GND)
2	I	LEFT HOT	Left ch balanced input (HOT)
3	I	LEFT CENTER COLD	Left center ch balanced input (COLD)
4	I	CENTER GND	Center ch balanced input (GND)
5	I	CENTER HOT	Center ch balanced input (HOT)
6	I	RIGHT CENTER COLD	Right center ch balanced input (COLD)
7	I	RIGHT GND	Right ch balanced input (GND)
8	I	RIGHT HOT	Right ch balanced input (HOT)
9	I	SURROUND LEFT GND	Surround left ch balanced input (GND)
10	I	SURROUND LEFT COLD	Surround left ch balanced input (COLD)
11	I	SURROUND RIGHT COLD	Surround right ch balanced input (COLD)
12	I	SUB WOOFER COLD	Sub woofer ch balanced input (COLD)
13	I	SUB WOOFER GND	Sub woofer ch balanced input (GND)
14	I	LEFT COLD	Left ch balanced input (COLD)
15	I	LEFT CENTER GND	Left center ch balanced input (GND)
16	I	LEFT CENTER HOT	Left center ch balanced input (HOT)
17	I	CENTER COLD	Center ch CH balanced input (COLD)
18	I	RIGHT CENTER GND	Right center ch balanced input (GND)
19	I	RIGHT CENTER HOT	Right center ch balanced input (HOT)
20	I	RIGHT COLD	Right ch balanced input (COLD)
21	–	NC	No connection
22	I	SURROUND RIGHT GND	Surround right ch balanced input (GND)
23	I	SURROUND LEFT HOT	Surround left ch balanced input (HOT)
24	I	SURROUND RIGHT HOT	Surround right ch balanced input (HOT)
25	I	SUB WOOFER HOT	Sub woofer ch balanced input (HOT)

NON-SYNC : RCA PHONO Jack
Analog audio signal (Unbalanced input),
Reference input level −10 dBu,
Impedance 10 kΩ or more

PROJECTOR I/O

READER 1, 2 : DME, 5W1S, female

Signal level; SDI format digital audio signal

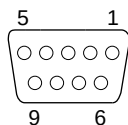


– EXT VIEW –

Pin No.	I/O	Signal name	Description
1	O	DC 24 V	DC 24 V
2	–	NC	No connection
3	–	GND (DC24 V)	Ground (DC 24 V)
4	–	CABLE SHIELD	Ground (frame)
A1	I	DATA	SDDS data input
G1	–	DATA GND	Ground (data)

OPTICAL 1, 2 : D-sub, 9P, female

Signal Level; Photo-electric Cell compatible

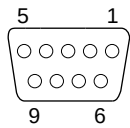


– EXT VIEW –

Pin No.	I/O	Signal name	Description
1	I	LEFT CH GND	L CH balanced input (GND)
2	I	LEFT CH HOT	L CH balanced input (HOT)
3	–	NC	No connection
4	I	RIGHT CH GND	R CH balanced input (GND)
5	I	RIGHT CH HOT	R CH balanced input (HOT)
6	I	LEFT CH COLD	L CH balanced input (COLD)
7	–	NC	No connection
8	–	NC	No connection
9	I	RIGHT CH COLD	R CH balanced input (COLD)

CONTROL I/O

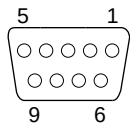
REMOTE LEVEL CONTROL : D-sub, 9P, female
Signal level; 0 to +10 Vdc



– EXT VIEW –

Pin No.	I/O	Signal name	Description
1	–	GND	Analog ground
2	I	MAN FADE	Manual fade input
3	–	–	–
4	–	–	–
5	–	–	–
6	I	AUTO FADE	Auto fade input
7	O	DC	DC –10 V
8	O	REMTLY	Remote tally (ENABLE=H, DISABLE=L)
9	–	GND	Remtly Ground (Remote tally)

RS-232C : D-sub, 9P, female
Signal level; RS-232C

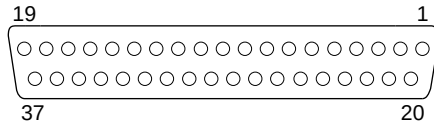


– EXT VIEW –

Pin No.	I/O	Signal name	Description
1	–	NC	No connection
2	I	RXD	Receive data
3	O	TXD	Transimit data
4	O	DTR	Data terminal ready
5	–	GND	Ground
6	–	NC	No connection
7	O	RTS	Request to send
8	I	CTS	Clear to send
9	–	NC	No connection

RS-422 : D-sub, 9P, female
DFP-D3000 does not support for using this connector.

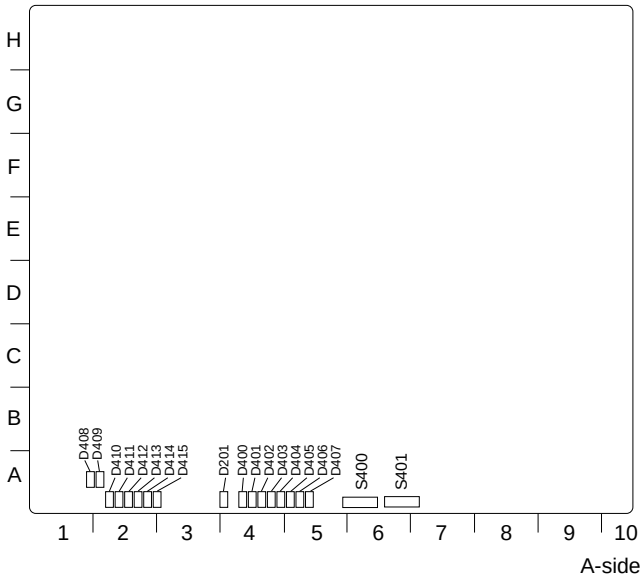
AUTOMATION I/O : D-sub, 37P, female
Signal level; TTL level



Pin No.	I/O	Signal name	Description
1	–	CHASSIS GND	Chassis ground
2	I	PROJ1 M_START	Projector1 motor start (L=ON, H=OFF)
3	I	M_MUTE	External master mute
4	I/O	PRE1	Preset1 select/tally
5	I/O	PRE2	Preset2 select/tally
6	I/O	PRE3	Preset3 select/tally
7	I/O	PRE4	Preset4 select/tally
8	I/O	PRE5	Preset5 select/tally
9	I/O	PRE6	Preset6 select/tally
10	I/O	PRE7	Preset7 select/tally
11	I/O	PRE8	Preset8 select/tally
12	O	MOTOR1	Motor start command out projector1
13	O	MOTOR2	Motor start command out projector2
14	–	LOGIC CMN	Logic common
15	–	LOGIC CMN	Logic common
16	–	TLY CMN	Tally common
17	–	TLY CMN	Tally common
18	I	C/O CMD IN	Change over command input (L=Proj1 H=Proj2)
19	O	C/O CMD TLY	Change over command output
20	O	PROJ1 TLY	Projector1 tally
21	O	PROJ2 TLY	Projector2 tally
22	O	M_MUTE TLY	Master mute tally
23	I	PNOISE	Pink noise on/off (L=ON, H=OFF)
24	–	–	Reserved
25	–	–	Reserved
26	–	–	Reserved
27	–	–	Reserved
28	–	–	Reserved
29	–	–	Reserved
30	O	+5 V	–
31	O	–5 V	–
32	O	SDDS OK TLY	SDDS data OK (OK=H, DCM=L)
33	I	PROJ2 M_START	Projector2 motor start (L=ON, H=OFF)
34	I	LIP+	Lip sync control+
35	I	LIP–	Lip sync control–
36	O	AMC	ACM active (Low Active)
37	I	–	Reserved

1-1-6. Switch Setting and LED Functions on the Board

DSP-82 board



Switches

S400, 401 : DIP switch for design
Do not change the factory setting.

Factory Setting

S400-1 to -8 ; All OFF
S401-1 to -8 ; All OFF

Indicators

D201 (RED) : CPU OK
Lit ; When CPU is running normally.
Unlit ; When CPU is not running normally.

D400 (RED) : ATRAC error (P side)
Lit ; When the ATRAC data error of the SDDS P side is corrected.
Unlit ; When the ATRAC data error of the SDDS P side is not corrected.

D401 (RED) : ATRAC error (S side)
Lit ; When the ATRAC data error of the SDDS S side is corrected.
Unlit ; When the ATRAC data error of the SDDS S side is not corrected.

D402 (RED) : TBC jump
Unlit ; During normal operation.
Lit ; When TBC jump occurs.

D403 (RED) : CPU
Blinking (with one second interval) ;
When CPU is running normally.
Unlit ; When CPU is not running normally.

1-10 (E)

D404 (RED) : Parameter
Unlit ; During normal operation.
Lit ; During serial communication and when the DSP parameters are changed.

D405 (RED) : SDDS data
Lit ; When the SDDS data is received normally.
Unlit ; When the SDDS data is not received normally.

D406 (RED) : DECODE
Lit ; When the SDDS data is decoded normally.
Unlit ; When the SDDS data is not decoded normally.

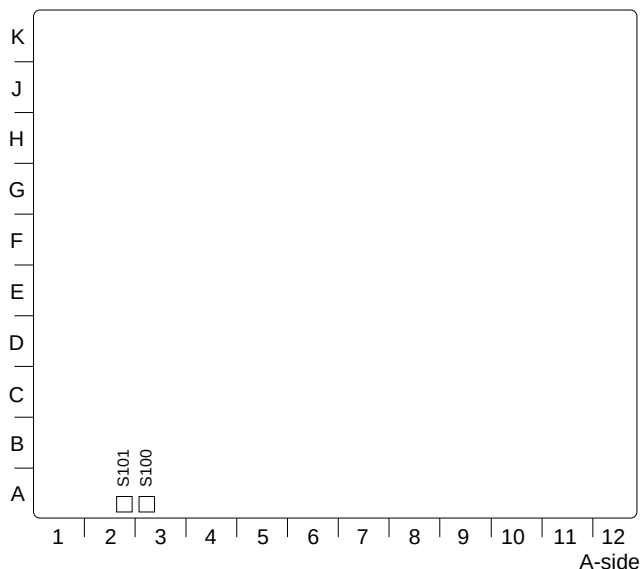
D407 (RED) : ATRAC
Lit ; When the ATRAC data is decoded correctly.
Unlit ; When the ATRAC data is not decoded correctly.

D413 (GRN) : Change over
Lit ; When changeover ends normally.
Unlit ; When changeover is operating.

D414 (GRN) : SDDS data
Lit ; When playing back the SDDS digital data.
Unlit ; When the SDDS digital data cannot be played back.
(The digital data is switched to analog signal when unlit.)

D415 (GRN) : FILM running
Lit ; When the FILM running speed is within the specified range.
Unlit ; When the FILM running speed is outside the specified range.

D408-D412 (GRN) : Not used (For Debug)

DEC-102 board**Switches**

S100, 101 : Rotary switch for design
Do not change the factory setting.

Factory Setting

S100, 101 ; 0

CN-1582 board**Switch**

S10 : For PLL fully-run frequency adjustment
Used for PLL fully-run frequency adjustment.
(Refer to “Section 2 Electrical Alignment”)

1-1-7. Rack Mounting

DFP-D3000 can be mounted in a EIA 19-inch standard rack.

When the DFP-D3000 is mounted in the rack, remove the four feet from the bottom of unit.

In this time, it is not necessary to install the rack mounting rail.

After installing the DFP-D3000 in the rack, secure the unit to the rack by prepared four screws (RK 5×16) and four ornamental washers.

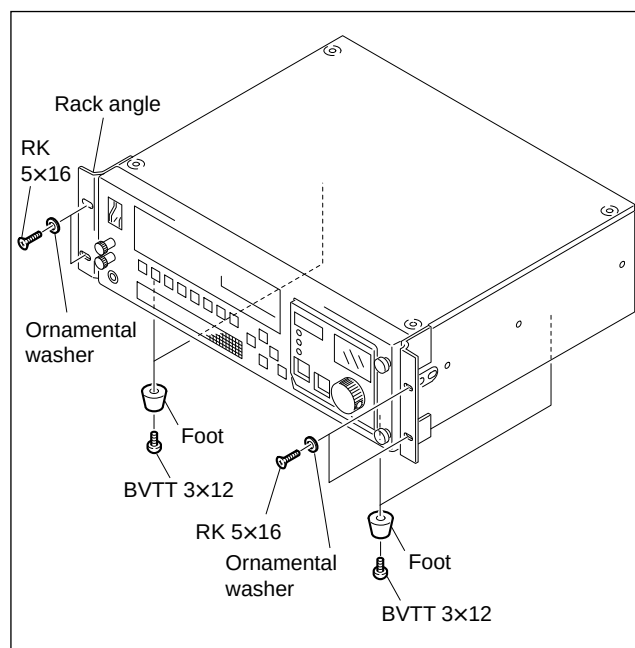
Screw for rack mounting RK 5×16 : 4

Ornamental washer for rack mounting : 4

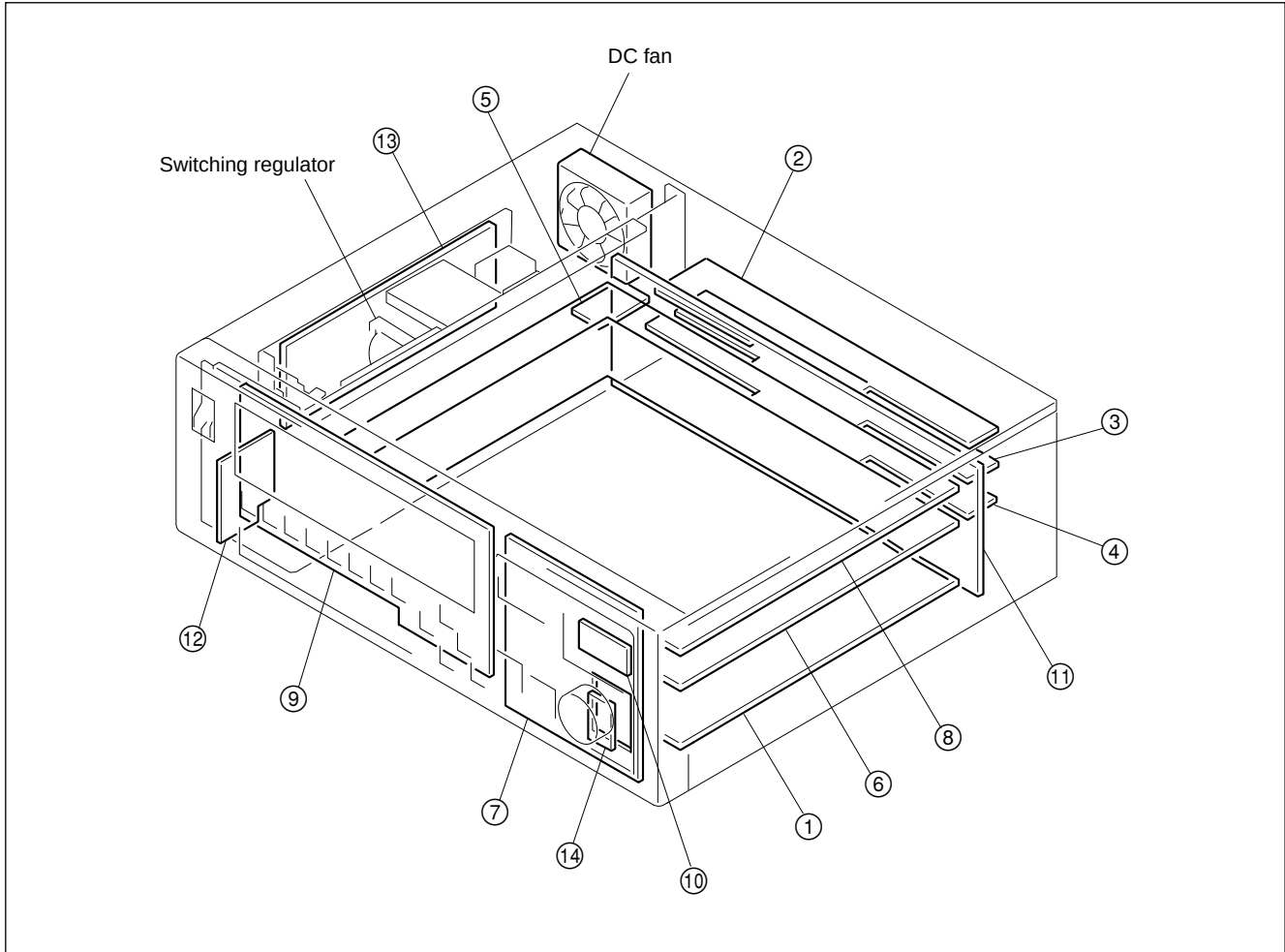
(Sony Part No. 2-297-913-01)

Caution of rack mounting

When mounting the DFP-D3000 into the rack, it is suggested to have a minimum two persons to install the unit.



1-2. Main Parts Location



- ① APR-34
- ② CN-1582
- ③ CN-1583
- ④ CN-1584
- ⑤ CN-1603
- ⑥ DEC-102
- ⑦ DP-274
- ⑧ DSP-82
- ⑨ KY-413
- ⑩ LED-322
- ⑪ MB-782
- ⑫ SW-943
- ⑬ SW-944
- ⑭ SW-977

1-3. Removal of Cabinet

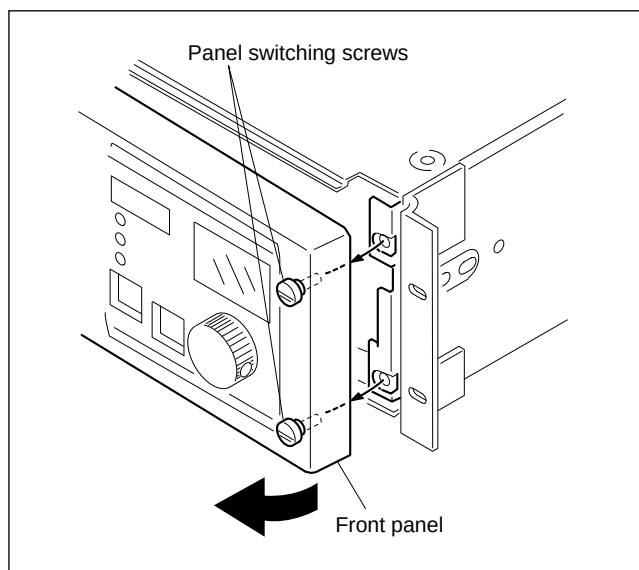
Note

Be sure to turn off the power and unplug the power cord before removal.

1-3-1. Front Panel Removal

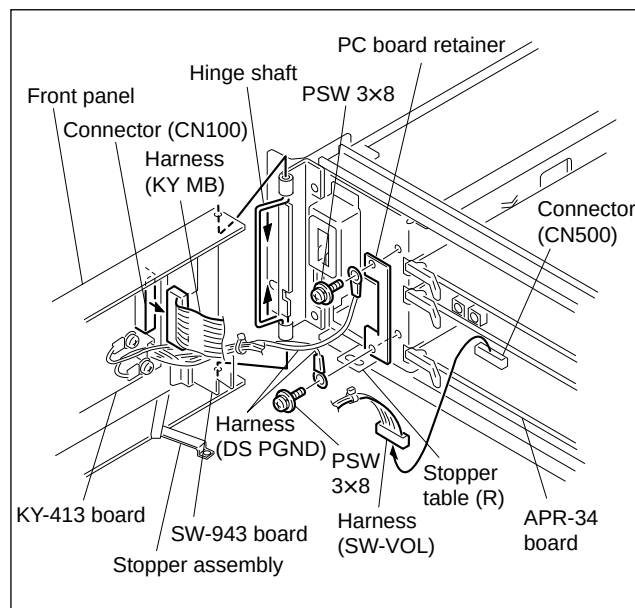
Procedure

- (1) Loosen the two panel switching screws and open the front panel.



- (2) Disconnect the harness (KY MB) from the connector (CN100) on the KY-413 board and disconnect the harness (SW-VOL) from the connector (CN100) on the APR-34 board.
- (3) Remove the two screws (PSW 3×8) to remove the two harnesses (DC PGND) and PC board retainer.

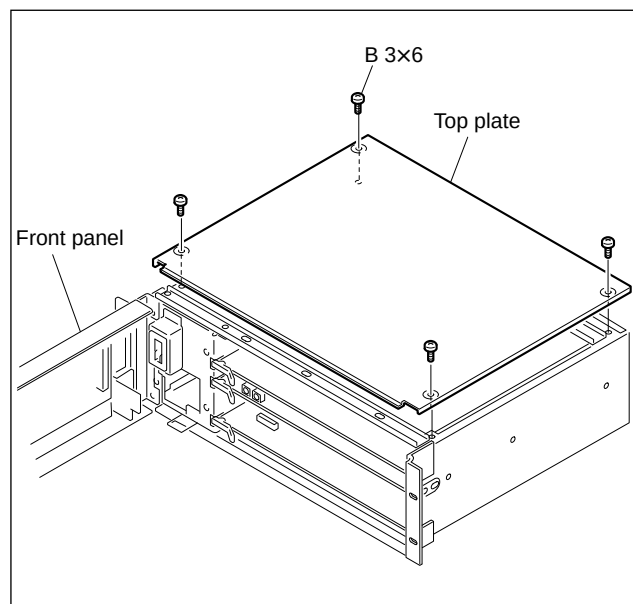
- (4) Press the hinge shaft in the direction of the arrows and pull up a stopper assembly from the stopper table (R) to remove the front panel.



1-3-2. Top Panel Removal

Procedure

- (1) Open the front panel.
(Refer to “1-3-1. Front Panel Removal”)
- (2) Remove the four screws (B 3×6) to remove the top panel.



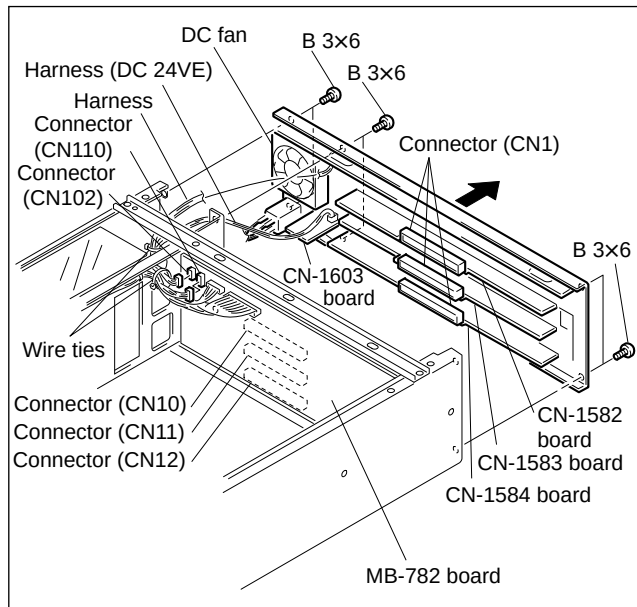
1-3-3. Rear Panel Removal

Procedure

- (1) Remove the top panel.
(Refer to “1-3-2. Top Panel Removal”)
- (2) Cut the two wire ties.
- (3) Disconnect the harness of DC fan from the connector (CN102) on the MB-782 board and disconnect the harness (DC 24VE) from the connector (CN110) on the MB-782 board.
- (4) Remove the six screws.
- (5) Pull out the CN-1582, CN-1583 and CN-1584 boards (each CN1 connector) from the MB-782 board (CN10, CN11 and CN12 connectors), and remove the rear panel to the direction by the arrow.

Note on reassemble

When reassembling the rear panel, insert the each connector (CN1) of the CN-1582, CN-1583 and CN-1584 boards firmly into the connectors (CN10, CN11 and CN12) of MB-782 board.



1-4. Replacement of Main Parts

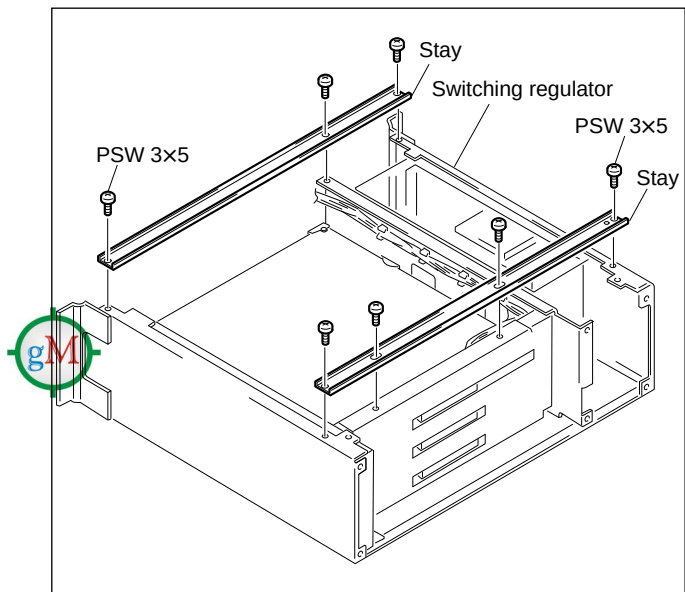
Note

Be sure to turn off the power and unplug the power cord before replacing.

1-4-1. Switching Regulator Replacement

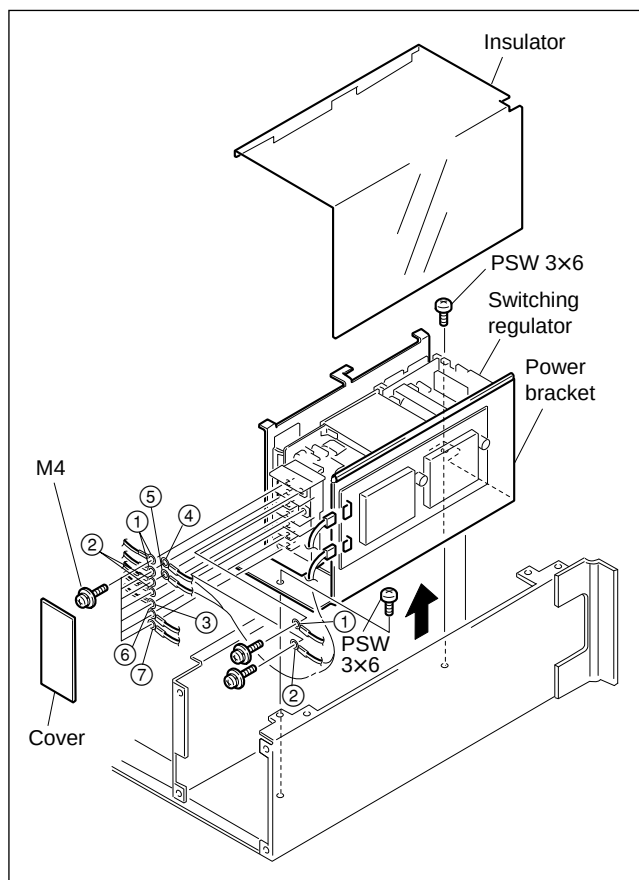
Procedure

- (1) Open the front panel and remove the top panel and the rear panel.
(Refer to “1-3. Removal of Cabinet”)
- (2) Remove the seven screws (PSW 3x5) to take out the two stays.

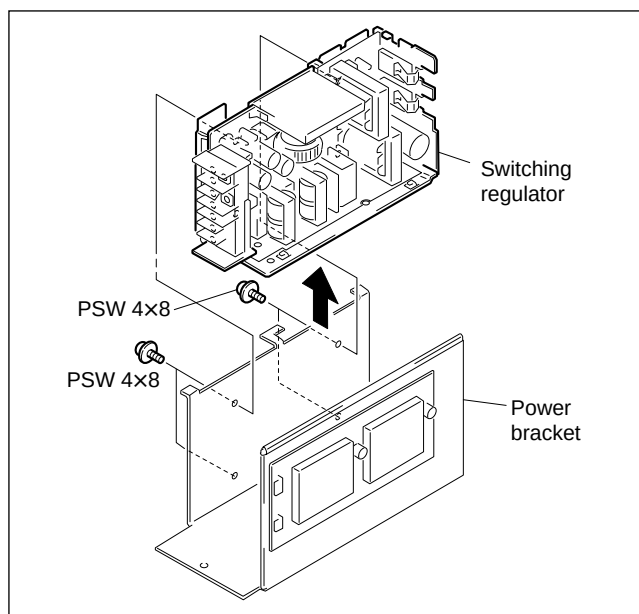


- (3) Remove the insulator.
- (4) Remove the cover of the switching regulator.
- (5) Remove the nine screws and remove the following harnesses from the switching regulator.
 - ① DC 5V : 3 pieces (RED)
 - ② DC 5V : 3 pieces (BLK)
 - ③ DC FGND : 1 piece (BLK)
 - ④ DC 5VDC : 1 piece (RED)
 - ⑤ DC 5VDC : 1 piece (BLK)
 - ⑥ AC SW : 1 piece (WHT)
 - ⑦ AC SW : 1 piece (BRN)

- (6) Remove the two screws (PSW 3×6) and remove the switching regulator with the power bracket.



- (7) Remove the four screws (PSW 4×8) and remove the power bracket from the switching regulator.

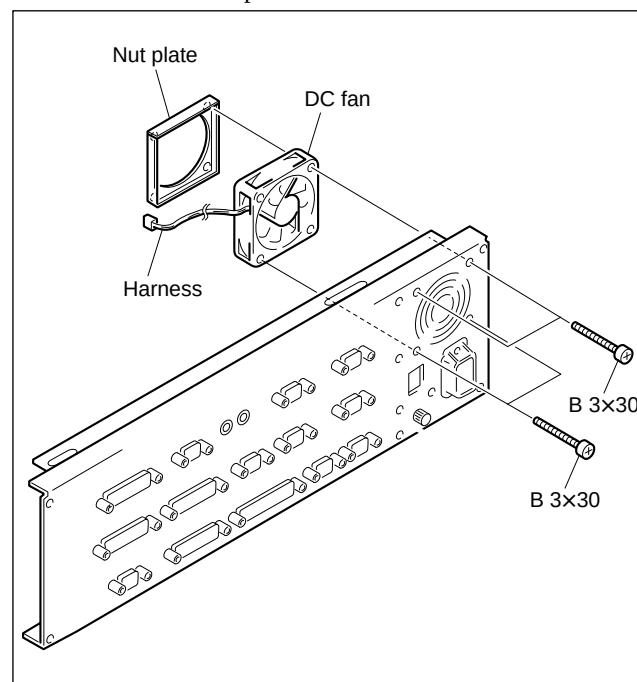


- (8) After replacement is completed, mount the new switching regulator in the reverse procedure of steps (1) to (7).

1-4-2. DC Fan Replacement

Procedure

- (1) Remove the top panel.
(Refer to “1-3-2. Top Panel Removal”)
- (2) Remove the rear panel.
(Refer to “1-3-3. Rear Panel Removal”)
- (3) Remove the four screws (B 3×30) and remove the DC fan from the rear panel.



- (4) After replacement is completed, mount the new DC fan in the reverse procedure of steps (1) to (3).

Note

When installing the DC fan, place the DC fan so that the harness is visible in the above figure.

1-4-3. Fuse Replacement

The following fuse is mounted on the CN-1603 board.
Replace the fuse with following as shown in the parts list of “Section 3 Spare Parts”.

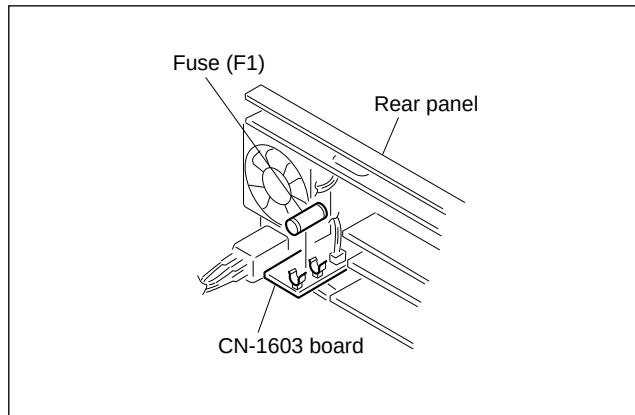
CN-1603 board (Ref.No.F1): Fuse 2 A, 250 V

Note

First turning off the power and unplug the power cord and AC adaptor.

Procedure

- (1) Remove the top panel and rear panel.
(Refer to “1-3. Removal of Cabinet”)
- (2) Take off the fuse (F1) out of the fuse holder on the CN-1603 board.



- (3) After inserting with a new fuse, reassemble this device in the reverse procedure.

1-4-4. Lithium Battery Replacement

Lithium battery for memory backup is mounted on the DSP-82 board.

When the battery runs down, the SYSTEM OK LED on the front panel goes out.

When the SYSTEM OK LED goes out, replace the lithium battery with the following procedure.

Replace the battery with the following as shown in the parts list of “Section 3 Spare Parts”.

DSP-82 board (Ref.No.B200) : Lithium Battery CR2025

Note

Replace the lithium battery every 2 or 3 years under normal operation.

Equipment and tool required

Personal Computer : IBM PC/AT compatible
 CPU ; Intel i486DX2 and faster (or equivalent)
 Memory ; 16 MB or more
 Hard disk drive ; Space capacity is more than 100 MB after operating system is installed.
 3.5 inch Floppy disk drive ; For 2HD (1.44 MB)
 Keyboard, Mouse and Monitor
 Operating system; Microsoft® Windows® 95

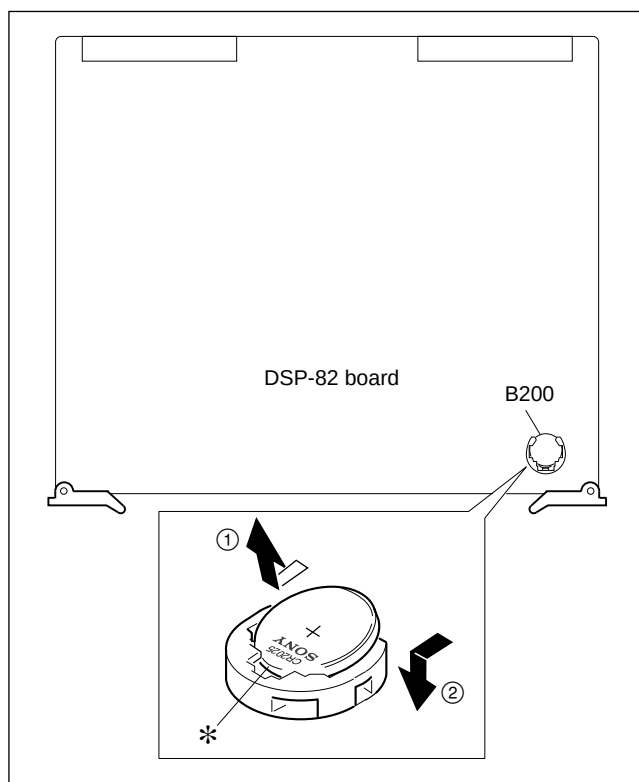
SDDS Setup Software disk
 RS-232C Null modem cable

Procedure

- (1) Connect between the RS-232C connector on DFP-D3000 and serial port in PC (personal computer) by using RS-232C Null modem cable.
- (2) Start up Windows95 in PC.
- (3) Insert SDDS Setup Software disk into floppy disk drive.
- (4) Open “3.5 inch FD” from “My Computer” of Windows95 and start up “Dfp.exe” of SDDS Setup Software disk.
- (5) Save the various setting data that is stored in memory (SRAM) to PC using SDDS Setup Software.
 Refer to “Help” menu of SDDS System Software (DFP-D3000 System Setup screen) for the procedure of saving the setting data.

IBM PC/AT is registered trademarks of International Business Corporation.
 Microsoft and Windows are either registered trademarks of Micro soft Corporation.
 Intel is registered trademarks of Intel Corporation.

- (6) Turn off the DFP-D3000 POWER switch and remove DSP-82 board.
- (7) Push the lithium battery (* marked) and remove it in the direction of the arrow ①.
- (8) Insert a new lithium battery (* marked) to the battery holder in the direction of the arrow ②.



- (9) Insert the DSP-82 board in the DFP-D3000 after replacing lithium battery.
- (10) Turn on the DFP-D3000 POWER switch and confirm that the various setting values are not reset on LCD panel display of front panel.
If they are reset, download (write) the setting value data that has been saved, from PC to memory (SRAM).
Refer to “Help” menu of SDDS Setup Software (DFP-D3000 System Setup screen) for the procedure of downloading the saved setting data.

Notes

1. Check that voltage of new lithium battery is more than +2.6 V before the replacement.
2. Even after the battery has been removed, the data will be stored for about one day. However, the battery should be replaced with a new one as quickly as possible.

1-4-5. Note on DSP-82 Board Replacement

The various setting data* is written in the SRAM (Ref No. IC404, IC405) of DSP-82 board.

The various setting data is reset and lost when the DSP-82 board or the SRAM is replaced.

Therefore, set the various setting data again when the DSP-82 board or the SRAM is replaced.

If backing up the setting data is possible before replacing them, save them to PC using the SDDS Setup Software.

Refer to “Help” menu of the SDDS Setup Software program (DFP-D3000 System Setup screen) for the procedure of saving the setting data.

* : Refer to “LCD panel menu” on DFP-D3000 Operation Manual for the details such as the setup data items.

Setting up procedure

1. When the backup data is not available

When the backup data is not available, set up the system from the LCD panel display of the DFP-D3000 front panel or using the SDDS Setup Software. (Write the setting data to SRAM.)

When the SDDS Setup Software is used for setting up, it is performed by referring to “Help” menu of the SDDS Setup Software (DFP-D3000 System Setup screen).

When the LCD panel display of the DFP-D3000 front panel is used for setting up, it is performed by referring to the “LCD panel menu” on DFP-D3000 Operation Manual.

2. When the backup data is available

Download the various setting data that is saved in PC, to the memory (SRAM) using the SDDS Setup Software.

Equipment and tools required

Personal Computer : IBM PC/AT and compatible
 CPU ; Intel i486DX2 and faster (or equivalent)
 Memory ; 16 MB or more
 Hard disk drive ; Space capacity is more than 100MB after installing operating system.
 3.5 inch Floppy disk drive ; For 2HD (1.44 MB)
 Keyboard, Mouse and Monitor
 Operating system; Microsoft® Windows® 95

SDDS Setup Software disk
 RS-232C Null modem cable

Procedure

- (1) Connect between the RS-232C connector on DFP-D3000 and serial port in PC (personal computer) by using RS-232C Null modem cable.
- (2) Start up Windows95 in PC.
- (3) Insert SDDS Setup Software disk into floppy disk drive.
- (4) Open “3.5 inch FD” from “My Computer” of Windows95 and start up “Dfp.exe” of SDDS Setup Software disk.
- (5) Save the various setting data that is stored in the memory (SRAM) to PC.
Refer to “Help” menu of the SDDS Setup Software program (DFP-D3000 System Setup screen) for the procedure of saving the setting data.
- (6) Quit SDDS Setup Software of PC.
- (7) Turn off the DFP-D3000 POWER switch and remove the connection with PC.
- (8) Turn on the DFP-D3000 POWER switch and confirm the various setting value on LCD panel display of front panel.

1-5. Using the Extension Board

The extension board EX-633 is used when inspecting the following plug-in boards.

The extension board is prepared as a tool. Obtain it separately.

Extension board : EX-633

Part No. : A-8319-021-A

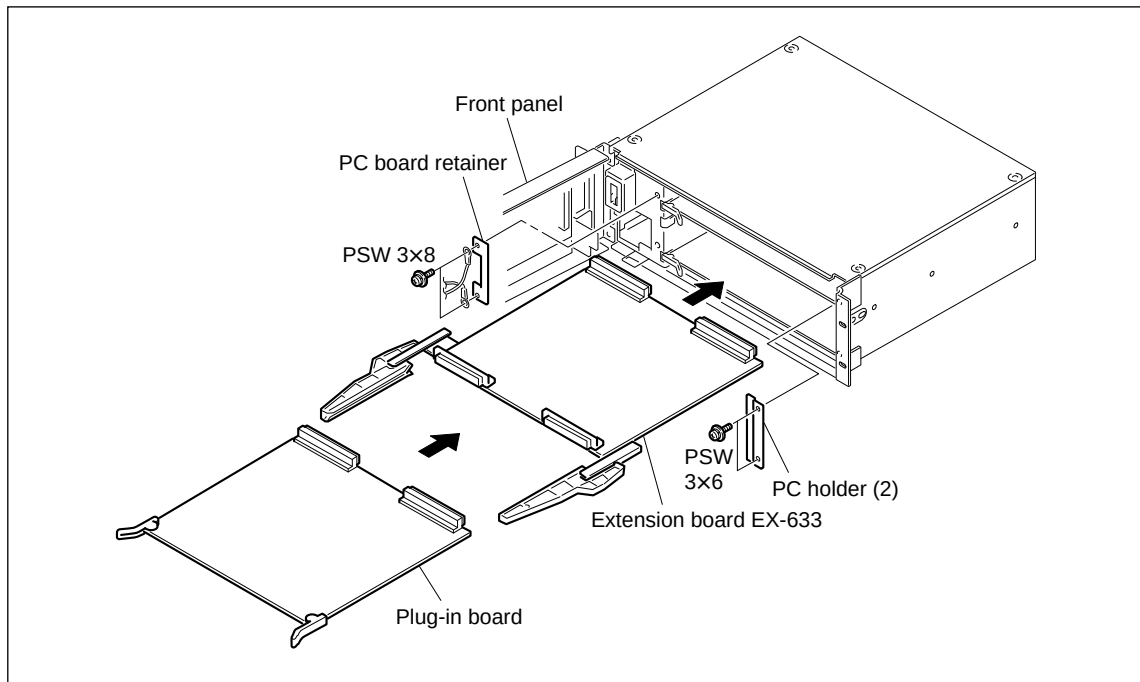
Plug-in board : APR-34, DEC-102, DSP-82 board

Note

Turn the power of DFP-D3000 off before removing or inserting boards.

Procedure

- (1) Open the front panel and remove the PC board retainer and the PC holder (2).
(Refer to “1-3-1. Front Panel Removal”)
- (2) After the board has been extracted, insert the extension board EX-633.
- (3) Insert the plug-in board in the extension board EX-633 connector.



1-6. Software Version Updating

The version of the DFP-D3000 software can be updated by using SDDS Setup Software.

Version update program is provided on floppy disk.

Note

It is necessary that SDDS Setup Software is installed in personal computer.

Equipment and tool required

Personal Computer : IBM PC/AT compatible

CPU ; Intel i486DX2 and faster (or equivalent)

Memory ; 16 MB or more

Hard disk drive ; Space capacity is more than 100 MB after operating system install.

3.5 inch Floppy disk drive ; For 2HD (1.44 MB)

Keyboard, Mouse and Monitor

Operating system; Microsoft® Windows® 95

RS-232C Null modem cable

Version update program disk

SDDS Setup Software disk

Preparation

Install SDDS Setup Software in PC (personal computer).

Refer to “Readme. txt” file of SDDS Setup Software disk for the procedure of installing the SDDS Setup Software.

Procedure

- (1) Connect between the RS-232C connector on DFP-D3000 and serial port in PC by using RS-232C Null modem cable.
- (2) Start up SDDS Setup Software of PC.
- (3) Insert version update program disk into floppy disk drive of PC.
- (4) Refer to “Help” menu of the startup SDDS Setup Software (DFP-D3000 System Setup screen) and update the version of the DFP-D3000 software.

Section 2

Electrical Alignment

This section describes the following electrical adjustments required when servicing or maintenance has been performed.

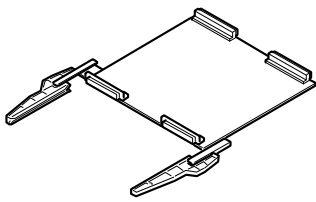
- APR-24 board ; 1. Hearing impaired output level adjustment
 2. Bypass level adjustment
 3. DC/DC converter output voltage adjustment

CN-1582 board ; PLL free-run frequency adjustment

Required equipment

Equipment	Specification	Model name
Digital multimeter (DC volt meter)	Effective digits; 5 digits or more	—
Frequency counter	Effective digits; 10 digits or more	TEKTRONIX 2445, 2465 or equivalent
Audio analyzer	• Oscillator • Level meter	TEKTRONIX SG505, AA501 or equivalent
Personal computer	• CPU; Intel i486DX2 or faster • Memory; 32 MB or more • Hard disk drive • 3.5 inch floppy disk drive • Monitor, Keyboard, Mouse • Operating system; Microsoft® Windows®95	IBM PC/AT compatible

Required Tools

Name	Part No.	Remarks
Extension board EX-633	A-8319-021-A	
SDDS setup software	—	—
AC adapter	1-473-247-11 (for UC) 1-473-248-11 (for CE)	Supplied with DFP-D3000

2-1. APR-34 Board Adjustment

2-1-1. Hearing Impaired Output Level Adjustment

Perform the adjustment by using the DFP-D3000 built-in signal generator.

Personal computer and SDDS setup software are required for the adjustment.

Equipment and Tools Required

Audio analyzer (Level meter)

Personal computer

Extension board EX-633

RS-232C Null modem cable

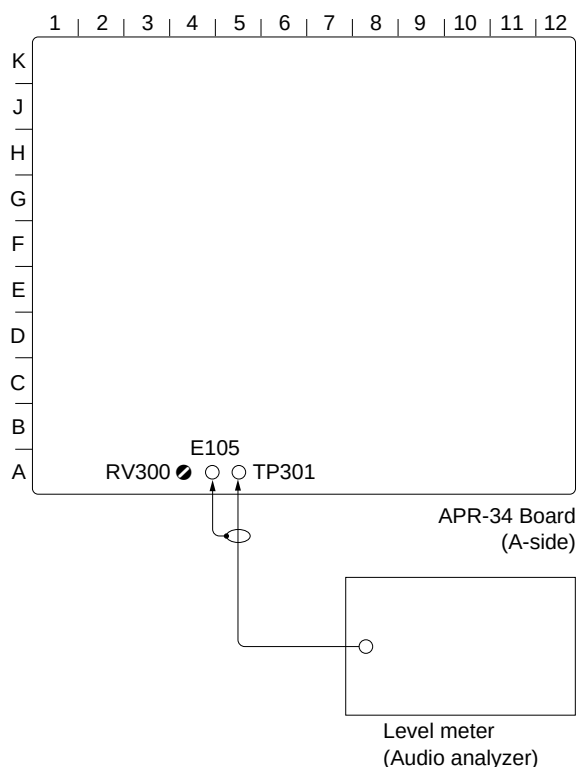
SDDS Setup Software disk

Switch and Control Setting

DFP-D3000 front panel

The switch and control settings are not required.

Connection/Adjustment Location



Preparation

Extend the APR-34 board using the extension board EX-633.

Procedure

Step 1. Connection

- (1) Connect the level meter (audio analyzer) to the TP301 (A5) and E105 (A5) GND on the APR-34 board.
- (2) Connect between RS-232C connector of the DFP-D3000 and serial port of the PC (personal computer) using RS-232C Null modem cable.

Step 2. Built-in signal generator setting

- (1) Start up Windows95 in PC.
- (2) Insert SDDS Setup Software disk into floppy disk drive.
- (3) Open "3.5 inch FD" from "My Computer" of Windows95 and start up "Dfp.exe" of SDDS Setup Software disk.
- (4) Select the "Signal Generation" command located under the "Test" menu of "DFP-D3000 System Setup" screen.
Refer to "Help" menu of the startup SDDS Setup Software (DFP-D3000 System Setup screen) for further information.
- (5) Set the following items on the "DFP Test Signal Generator" dialog box, and then click on "Exit" button.

Signals : 1 kHz Tone

Level : -20 dB

Output Channel : Left

Step 3. Adjustment

Specification : TP301 output level =

-10 dBu $\pm$ 0.5 dB

(0 dBu = 0.775 Vrms)

Adjustment : RV300 (A4)/APR-34 board

Step 4. Signal generator signal OFF setting

- (1) Open the "DFP Test Signal Generator" dialog box and click the "All Off" button to turn off generation of signal.
- (2) Click the "Exit" button to close the setup display and exit the SDDS Setup software.

2-1-2. Bypass Level Adjustment

The AC adapter (the supplied accessory of DFP-D3000) is required because the following adjustment is performed when DFP-D3000 is operated on the backup power supply.

Equipment and Tools Required

Audio analyzer (Oscillator, Level meter)

AC adapter (Supplied accessory to DFP-D3000)

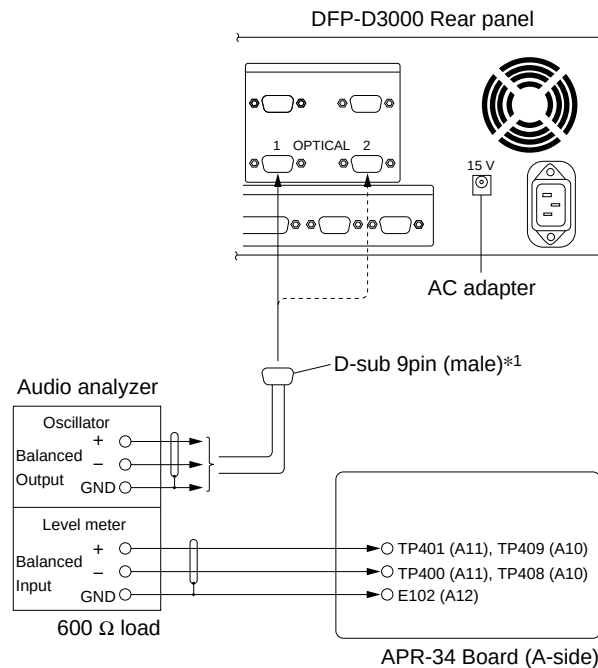
D-sub 9pin (male) connector

Switch and Control Setting

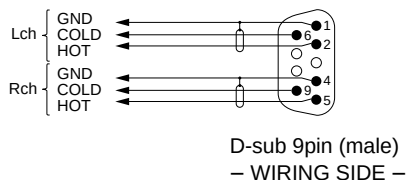
DFP-D3000 front panel

The switch and control settings are not required.

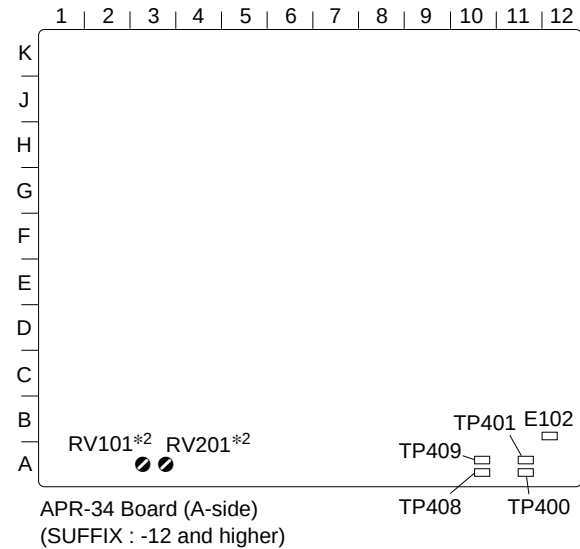
Connection



*1 : To connect a audio analyzer to the OPTICAL 1 (or 2) connector (D-sub 9pin, female), locally manufacture the connecting cable as shown in the following diagram using a D-sub 9pin (male) connector.



Adjustment Location



*2 : Among the APR-34 boards, those that have the suffix number -11 have the potentiometers RV1 and RV2 mounted on the side B of the printed wiring board.

Procedure

Step1. Preparation

- (1) Open the front panel of DFP-D3000.
- (2) Connect the AC adapter to the DC input connector of DFP-D3000.

Step2. Adjustment

- (1) Turn off the POWER switch of the DFP-D3000 and let the DFP-D3000 operate on the backup power supply. Check that the SELECT button indicator on the DFP-D3000 FRONT PANEL turns on.
- (2) Input the 1 kHz, -64.5 dBu (0 dBu = 0.775 Vrms) signal to the following DFP-D3000 connector from the audio analyzer (oscillator ; balanced output, output impedance 40Ω).
OPTICAL 1 (or 2) connector :
L ch input (pin-1 ; GND, pin-2 ; HOT, pin-6 ; COLD)
- (3) Connect the audio analyzer (level meter ; balanced input, input impedance 600Ω) to the TP401 (HOT) (A11) and TP400 (COLD) (A11) of the APR-34 board.
- (4) Adjustment (L ch)

Specification : Output level between TP400 and TP401 = -10.0 dBu ± 0.1 dB

Adjustment : $\text{RV101 (A3) / APR-34 board}$

- (5) Input the 1 kHz, -64.5 dBu (0 dBu = 0.775 Vrms) signal to the following DFP-D3000 connector from the audio analyzer (oscillator ; balanced output, output impedance $40\ \Omega$).

OPTICAL 1 (or 2) connector :

R ch input (pin-4 ; GND, pin-5 ; HOT, pin-9 ; COLD)

- (6) Connect the audio analyzer (level meter ; balanced input, input impedance $600\ \Omega$) to the TP409 (HOT) (A10) and TP408 (COLD) (A10) of the APR-34 board.

- (7) Adjustment (R ch)

Specification : Output level between TP408 and TP409 = -10.0 dBu ± 0.1 dB

Adjustment : $\odot$ RV201 (A3) /APR-34 board

2-1-3. DC/DC Converter Output Adjustment

Equipment and Tools Required

Digital multimeter (DC volt meter)

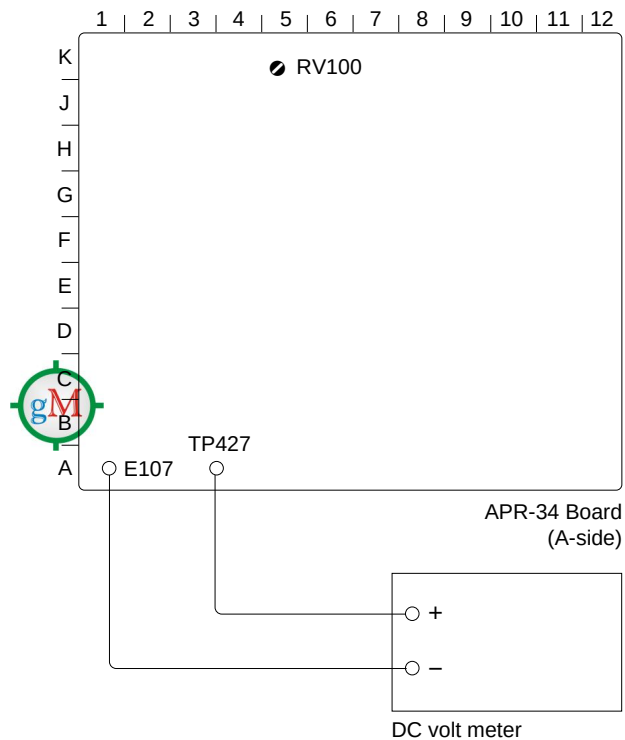
Extension board EX-633

Switch and Control Settings

DFP-D3000 front panel

The switch and control settings are not required.

Connection/Adjustment Location



Preparation

Extend the APR-34 board using the extension board EX-633.

Procedure

- (1) Connect the digital multimeter (DC volt meter) to the TP427 (A4) and E107 (A1) GND on the APR-34 board.

- (2) Adjustment

Specification : TP427 DC voltage = 10.0 ± 0.1 Vdc

Adjustment : $\odot$ RV100 (K5)/APR-34 board

2-2. PLL Free-run Frequency Adjustment (CN-1582 board adjustment)

Perform the adjustment after installing the target CN-1582 board to be adjusted (in the state that it is removed from rear panel), to the MB-782 board directly.

Equipment and Tools Required

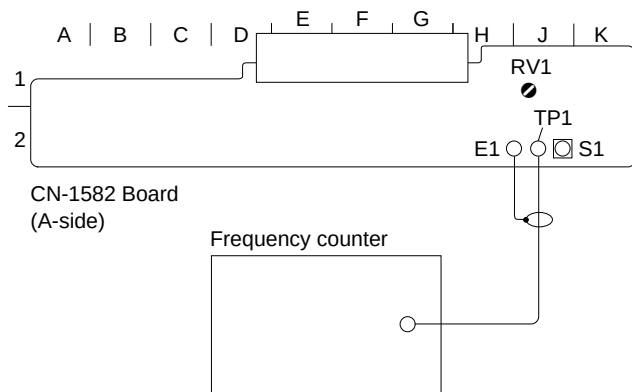
Frequency counter

Switch and Control Setting

DFP-D3000 front panel

The switch and control settings are not required.

Connection/Adjustment Location



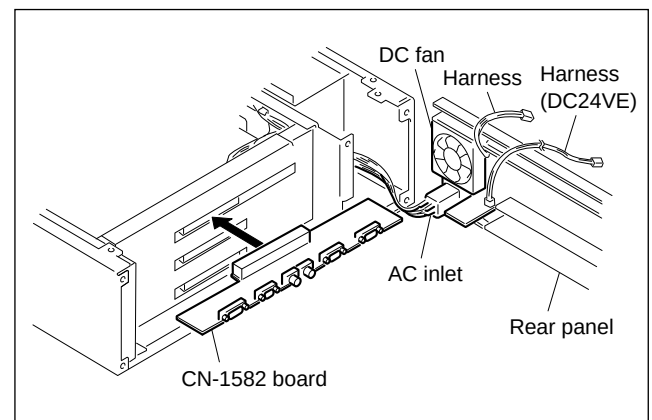
Procedure

Step 1. Preparation

Note

Turn OFF the DFP-D3000 POWER switch, and unplug the AC cord from the AC inlet to perform the followings.

- (1) Remove the all connection from the connectors on the DFP-D3000 rear panel.
- (2) Remove the top plate from the DFP-D3000.
(See section “1-3-2. Top plate removal”)
- (3) Remove the rear panel from the DFP-D3000.
(See section “1-3-3. Rear panel removal”)
- (4) Set the DFP-D3000 in the system in which harness of the AC inlet only is connected. Be sure that harness of DC fan and the harness (DC24VE) have already been removed.
- (5) Install the CN-1582 board to be adjusted to the MB-782 board (CN1 connector) directly.
- (6) Plug the AC cord to the AC inlet, and turn ON the DFP-D3000 POWER switch.



Step 2. Adjustment

- (1) Connect the frequency counter to the TP1 (J2) and E1 (J2) GND on the CN-1582 board.
- (2) While pressing the switch S1 (J2) on the CN-1582 board, adjust RV10 (J1) / CN-1582 board until frequency at TP1 satisfies the following specifications.

Specification : TP1 frequency = 16.0 ± 0.5 MHz

Section 3

Spare Parts

3-1. Notes on Repair Parts

1. Safety Related Components Warning

WARNING

Components marked $\triangle$ are critical to safe operation. Therefore, specified parts should be used in the case of replacement.

2. Standardization of Parts

Some repair parts supplied by Sony differ from those used for the unit. These are because of parts commonality and improvement.

Parts list has the present standardized repair parts.

3. Stock of Parts

Parts marked with “o” at SP (Supply code) column of the spare parts list may not be stocked. Therefore, the delivery date will be delayed.

4. Units Representation

The following represented units are changed or omitted in writing.

	Units	Representation
Capacitance	μ F	uF
Inductance	μ H	uH
Resistance	Ω	Abbreviation
Temperature	$^{\circ}$ C	XXX-DEG-C

5. Destination Representation

The part indicated “For J/UC/CE” in the spare parts list is used in the unit written below.

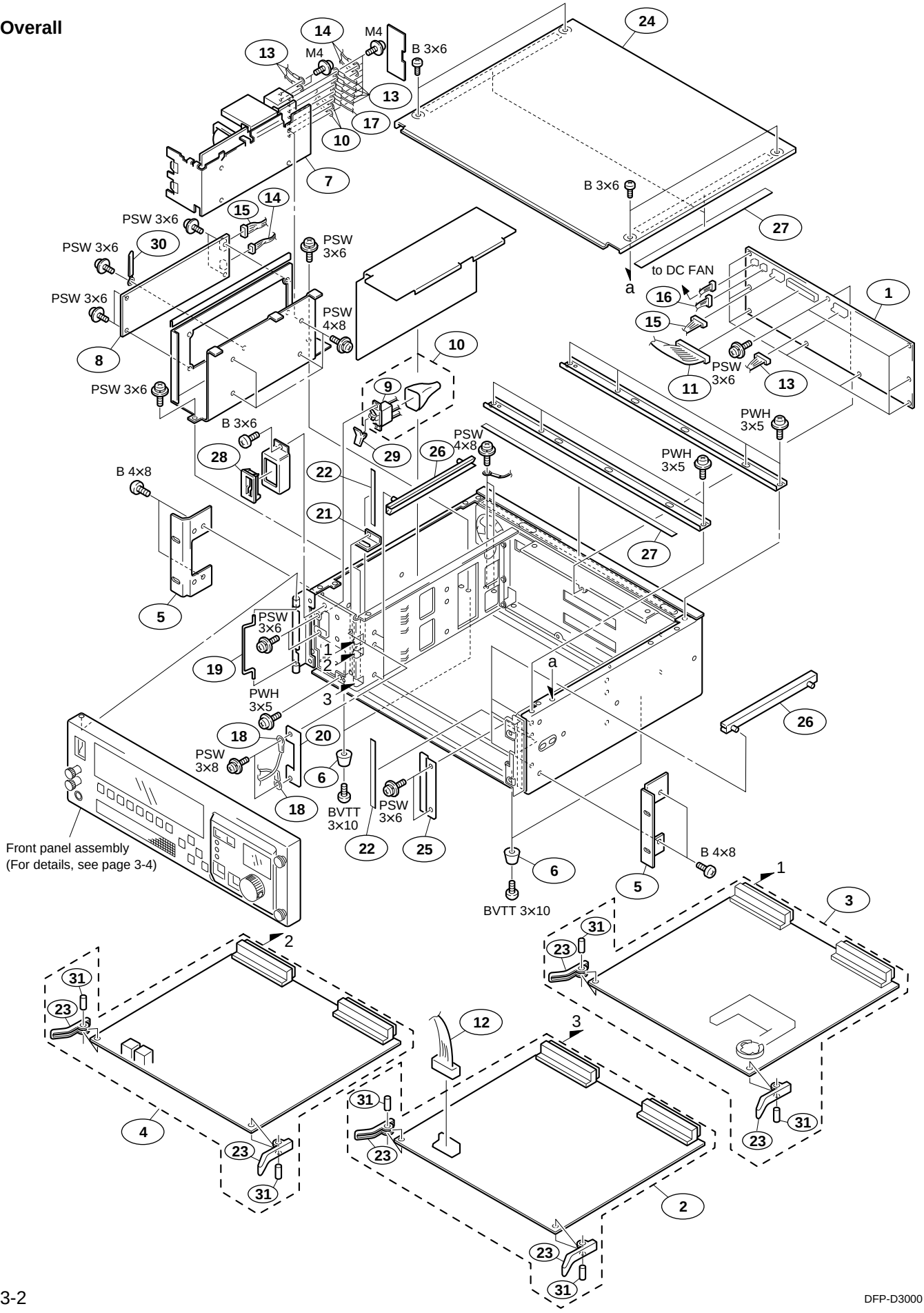
For J : The part is used in a unit for Japan.

For UC : The part is used in a unit for U.S.A. and Canada.

For CE : The part is used in a unit for regions except the above countries.

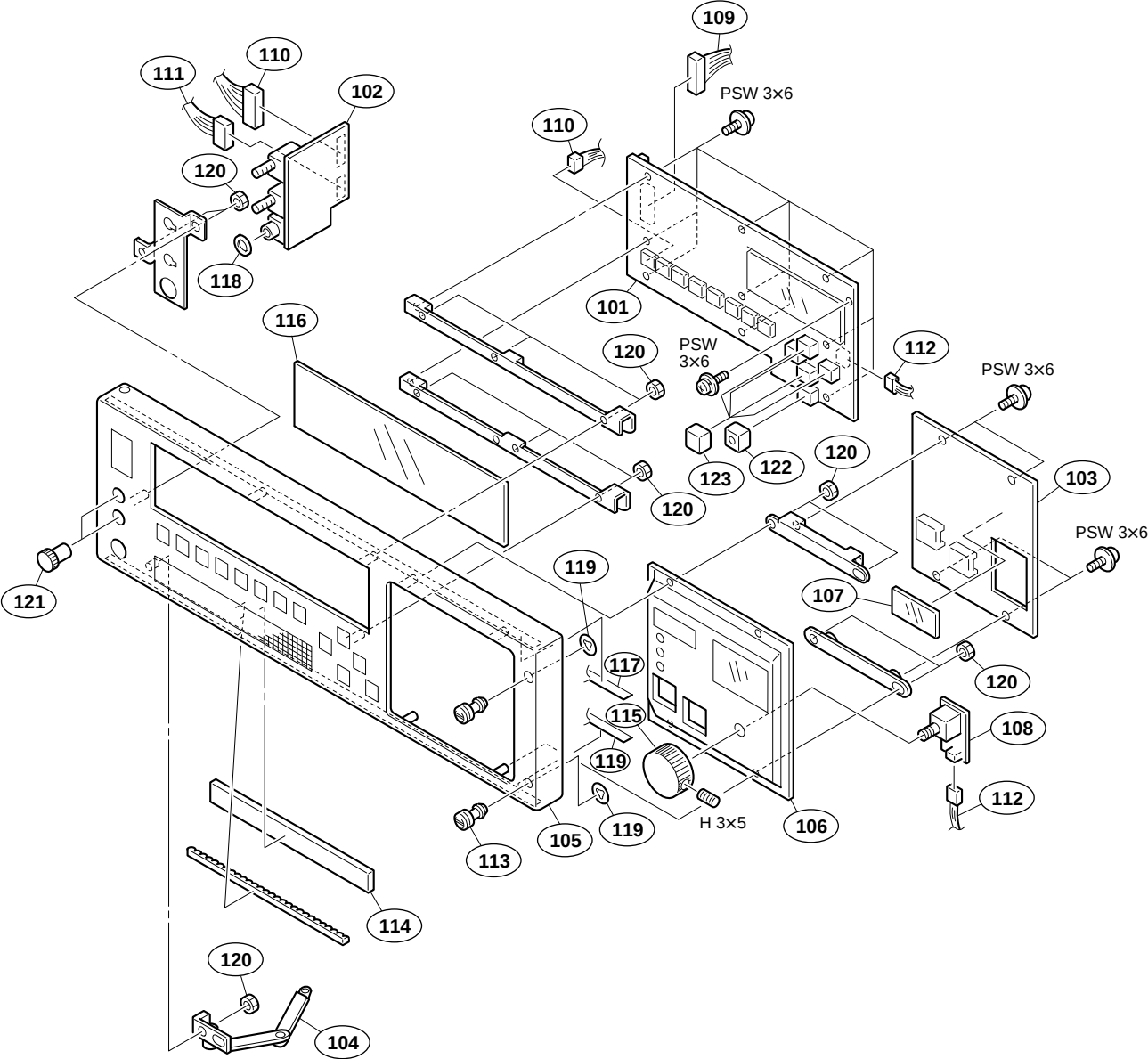
3-2. Exploded Views and Parts List

Overall



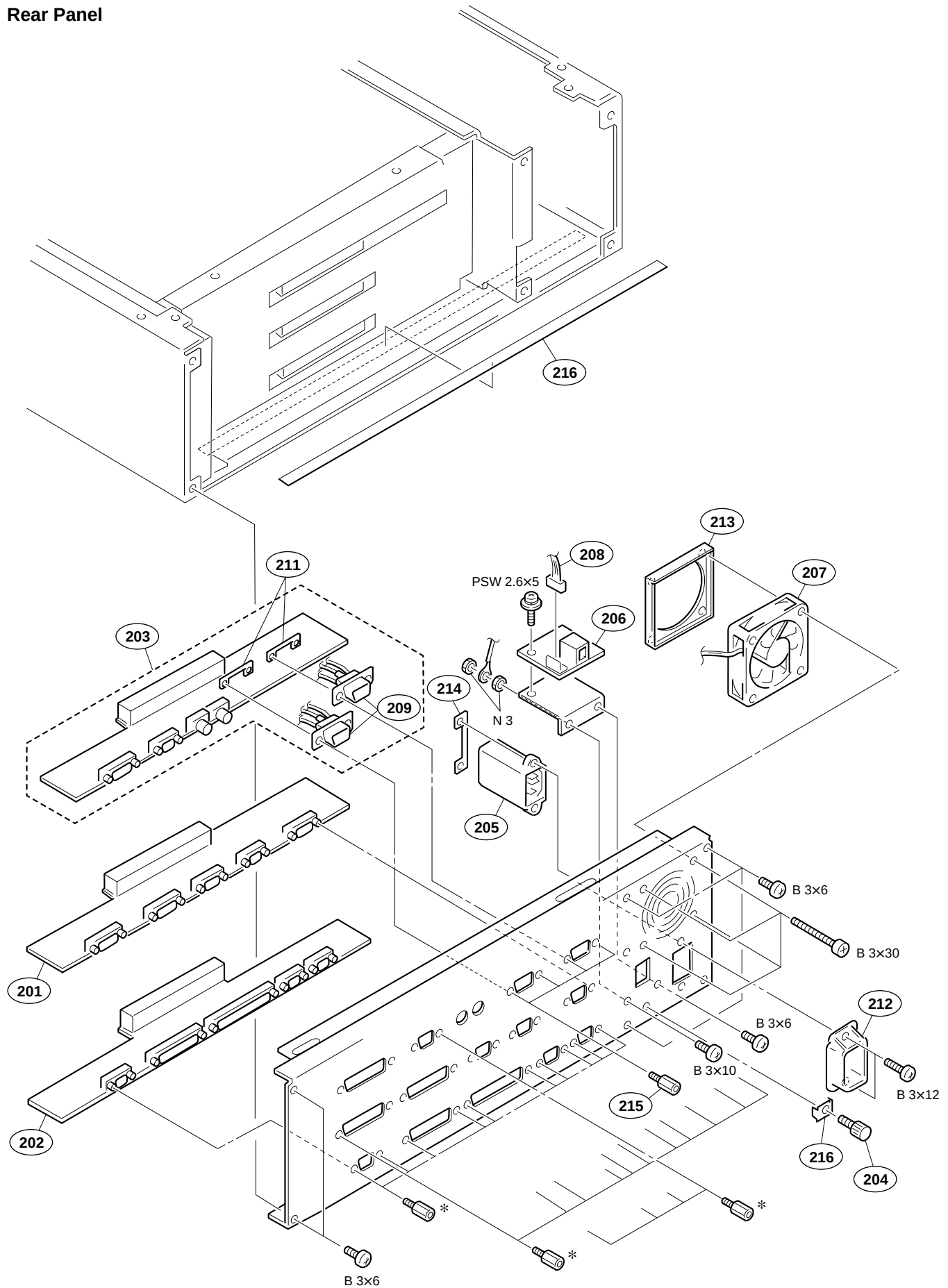
No.	Part No.	SP Description
1	A-8318-090-A	o MOUNTED CIRCUIT BOARD, MB-782
2	A-8318-101-A	o MOUNTED CIRCUIT BOARD, APR-34
3	A-8318-102-A	o MOUNTED CIRCUIT BOARD, DSP-82
4	A-8318-103-A	o MOUNTED CIRCUIT BOARD, DEC-102
5	X-3167-468-1	o ANGLE ASSY (3U), RACK
6	X-3566-109-0	s FOOT ASSY, MF
7	△ 1-468-292-11	s REGULATOR, SWITCHING
8	1-669-031-11	o PRINTED WIRING BOARD, SW-944
9	1-762-953-11	s SWITCH, POWER
10	△ 1-958-557-11	o HARNESS, SUB (AC SW)
11	1-958-558-11	o HARNESS, SUB (KY MB)
12	1-958-560-11	o HARNESS, SUB (SW VOL)
13	1-958-562-11	o HARNESS, SUB (DC 5V)
14	1-958-563-11	o HARNESS, SUB (DC 5VCV)
15	1-958-564-11	o HARNESS, SUB (DC 24V)
16	1-958-565-11	o HARNESS, SUB (DC 24VE)
17	1-958-566-11	o HARNESS, SUB (DC FGND)
18	1-958-772-11	o HARNESS, SUB (DC PGND)
19	2-139-020-01	o SHAFT (3U), HINGE
20	2-139-069-01	o RETAINER, PC BOARD
21	2-139-109-01	o TABEL (R), STOPPER
22	2-139-217-01	o RETAINER (3U)
23	2-182-909-01	o LEVER, PC BOARD
24	3-612-899-01	o PLATE, TOP
25	3-614-376-01	o PC HOLDER (2)
26	3-673-676-21	o RAIL, PC BOARD GUIDE
27	3-678-585-01	o SOFT SHIELD
28	3-681-054-01	o POWER SW GUARD
29	3-688-814-01	s CAP, SWITCH
30	3-703-150-11	s CLAMP
31	7-626-320-11	s PIN, SPRING 3X8

Front Panel



No.	Part No.	SP Description
101	A-8318-094-A	o MOUNTED CIRCUIT BOARD, KY-413
102	A-8318-095-A	o MOUNTED CIRCUIT BOARD, SW-943
103	A-8318-098-A	o MOUNTED CIRCUIT BOARD, DP-274
104	X-2182-907-3	o STOPPER ASSY
105	X-3604-564-2	o SUB ASSY,PANEL,FRONT
106	X-3604-924-1	o SUB ASSY,PANEL,KEY BOARD
107	1-669-035-11	o PRINTED WIRING BOARD, LED-322
108	1-669-036-11	o PRINTED WIRING BOARD, SW-977
109	1-958-558-11	o HARNESS, SUB (KY MB)
110	1-958-559-11	o HARNESS, SUB (SW SLT)
111	1-958-560-11	o HARNESS, SUB (SW VOL)
112	1-958-561-11	o HARNESS, SUB (SW JOG)
113	3-183-548-02	s SCREW, PANEL SWITCHING
114	3-185-274-01	o FILTER
115	3-185-284-02	s KNOB, DIAL
116	3-612-885-02	o COVER,LED
117	3-678-585-01	o SOFT SHIELD
118	3-701-448-21	s WASHER, POLYETHYLENE
119	3-715-526-01	o WASHER (M3)
120	4-334-513-00	s NUT, NYLON
121	4-902-067-11	s KNOB, CONTROL
122	4-927-278-01	s KEY TOP
123	4-927-279-11	s KEY TOP (SQUARE 10.5)

Rear Panel



* : supplied with each D-sub connector

No.	Part No.	SP Description
201	A-8318-092-A	o MOUNTED CIRCUIT BOARD, CN-1583
202	A-8318-093-A	o MOUNTED CIRCUIT BOARD, CN-1584
203	A-8318-343-A	o MOUNTED CIRCUIT BOARD, CN-1582
204	X-2068-004-0	s TERMINAL ASSY
205	△ 1-251-148-11	s INLET, AC (WITH FILLTER)
206	1-669-032-11	o PRINTED WIRING BOARD, CN-1603
207	1-698-661-11	s FAN, DC
208	1-958-565-11	o HARNESS, SUB (DC 24VE)
209	1-958-568-11	o HARNESS, SUB (CN SDI)
210	2-068-008-00	s WASHER
211	2-139-018-01	s NUT (D SUB 9P), PLATE
212	2-990-241-02	s HOLDER (A), PLUG
213	3-612-893-01	o PLATE,NUT
214	3-625-620-00	s BRACKET, AC CONNECTOR
215	3-673-910-31	s SCREW, CONNECTOR
216	3-678-585-01	o SOFT SHIELD

3-3. Electrical Parts List

APR-34 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	A-8318-101-A	o MOUNTED CIRCUIT BOARD, APR-34 (This assembly includes the following parts.)
2pcs	2-182-909-01	o LEVER, PC BOARD
2pcs	7-626-320-11	s PIN, SPRING 3X8
C100	1-126-396-11	s ELECT, CHIP 47uF 20% 16V
C101	1-126-396-11	s ELECT, CHIP 47uF 20% 16V
C102	1-163-251-11	s CERAMIC, CHIP 100PF 5% 50V
C103	1-163-251-11	s CERAMIC, CHIP 100PF 5% 50V
C104	1-126-396-11	s ELECT, CHIP 47uF 20% 16V
C105	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C106	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C107	1-126-396-11	s ELECT, CHIP 47uF 20% 16V
C108	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C109	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C110	1-126-396-11	s ELECT, CHIP 47uF 20% 16V
C111	1-126-396-11	s ELECT, CHIP 47uF 20% 16V
C112	1-163-239-11	s CERAMIC, CHIP 33PF 5% 50V
C113	1-163-239-11	s CERAMIC, CHIP 33PF 5% 50V
C114	1-163-239-11	s CERAMIC, CHIP 33PF 5% 50V
C115	1-163-239-11	s CERAMIC, CHIP 33PF 5% 50V
C116	1-126-396-11	s ELECT, CHIP 47uF 20% 16V
C117	1-126-396-11	s ELECT, CHIP 47uF 20% 16V
C118	1-126-396-11	s ELECT, CHIP 47uF 20% 16V
C119	1-126-396-11	s ELECT, CHIP 47uF 20% 16V
C120	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C121	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C122	1-126-396-11	s ELECT, CHIP 47uF 20% 16V
C123	1-126-396-11	s ELECT, CHIP 47uF 20% 16V
C124	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C125	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C126	1-126-400-11	s ELECT, CHIP 22uF 20% 35V
C127	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C128	1-163-145-00	s CERAMIC, CHIP 0.0015uF 5% 50V
C129	1-163-145-00	s CERAMIC, CHIP 0.0015uF 5% 50V
C130	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C131	1-126-396-11	s ELECT, CHIP 47uF 20% 16V
C132	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C133	1-163-239-11	s CERAMIC, CHIP 33PF 5% 50V
C134	1-163-239-11	s CERAMIC, CHIP 33PF 5% 50V
C135	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C136	1-126-396-11	s ELECT, CHIP 47uF 20% 16V
C137	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C138	1-163-239-11	s CERAMIC, CHIP 33PF 5% 50V
C139	1-163-239-11	s CERAMIC, CHIP 33PF 5% 50V
C140	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C141	1-126-396-11	s ELECT, CHIP 47uF 20% 16V
C142	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C143	1-163-239-11	s CERAMIC, CHIP 33PF 5% 50V
C144	1-163-239-11	s CERAMIC, CHIP 33PF 5% 50V
C145	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C146	1-126-396-11	s ELECT, CHIP 47uF 20% 16V
C147	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C148	1-163-239-11	s CERAMIC, CHIP 33PF 5% 50V
C149	1-163-239-11	s CERAMIC, CHIP 33PF 5% 50V
C150	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C151	1-126-396-11	s ELECT, CHIP 47uF 20% 16V
C152	1-126-396-11	s ELECT, CHIP 47uF 20% 16V
C153	1-126-396-11	s ELECT, CHIP 47uF 20% 16V

(APR-34 BOARD)

Ref. No. or Q'ty	Part No.	SP Description
C154	1-126-396-11	s ELECT, CHIP 47uF 20% 16V
C155	1-163-239-11	s CERAMIC, CHIP 33PF 5% 50V
C156	1-163-239-11	s CERAMIC, CHIP 33PF 5% 50V
C157	1-163-239-11	s CERAMIC, CHIP 33PF 5% 50V
C158	1-163-239-11	s CERAMIC, CHIP 33PF 5% 50V
C159	1-126-396-11	s ELECT, CHIP 47uF 20% 16V
C160	1-126-396-11	s ELECT, CHIP 47uF 20% 16V
C161	1-126-396-11	s ELECT, CHIP 47uF 20% 16V
C162	1-126-396-11	s ELECT, CHIP 47uF 20% 16V
C163	1-163-231-11	s CERAMIC, CHIP 15PF 5% 50V
C164	1-163-231-11	s CERAMIC, CHIP 15PF 5% 50V
C165	1-115-670-11	s ELECT 220uF 20% 35V
C166	1-126-396-11	s ELECT, CHIP 47uF 20% 16V
C167	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C168	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C169	1-126-396-11	s ELECT, CHIP 47uF 20% 16V
C170	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C171	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C172	1-126-396-11	s ELECT, CHIP 47uF 20% 16V
C173	1-126-396-11	s ELECT, CHIP 47uF 20% 16V
C174	1-163-231-11	s CERAMIC, CHIP 15PF 5% 50V
C175	1-163-231-11	s CERAMIC, CHIP 15PF 5% 50V
C176	1-126-916-11	s ELECT 1000uF 20% 6.3V
C177	1-126-396-11	s ELECT, CHIP 47uF 20% 16V
C178	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C179	1-163-231-11	s CERAMIC, CHIP 15PF 5% 50V
C180	1-126-920-11	s ELECT 10000uF 20% 6.3V
C181	1-126-935-11	s ELECT 470uF 20% 16V
C182	1-126-396-11	s ELECT, CHIP 47uF 20% 16V
C183	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C184	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C185	1-126-396-11	s ELECT, CHIP 47uF 20% 16V
C186	1-163-231-11	s CERAMIC, CHIP 15PF 5% 50V
C187	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C188	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C189	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C190	1-104-666-11	s ELECT 220uF 20% 25V
C191	1-104-666-11	s ELECT 220uF 20% 25V
C192	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C193	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C194	1-126-968-11	s ELECT 100uF 20% 50V
C195	1-104-666-11	s ELECT 220uF 20% 25V
C196	1-104-666-11	s ELECT 220uF 20% 25V
C197-204	1-163-251-11	s CERAMIC, CHIP 100PF 5% 50V
C205-213	1-126-396-11	s ELECT, CHIP 47uF 20% 16V
C214	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C215	1-163-231-11	s CERAMIC, CHIP 15PF 5% 50V
C216	1-163-231-11	s CERAMIC, CHIP 15PF 5% 50V
C217	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C218	1-163-231-11	s CERAMIC, CHIP 15PF 5% 50V
C219	1-163-231-11	s CERAMIC, CHIP 15PF 5% 50V
C220	1-126-396-11	s ELECT, CHIP 47uF 20% 16V
C221	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C222	1-163-231-11	s CERAMIC, CHIP 15PF 5% 50V
C223	1-163-231-11	s CERAMIC, CHIP 15PF 5% 50V
C224	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C225	1-163-231-11	s CERAMIC, CHIP 15PF 5% 50V
C226	1-163-231-11	s CERAMIC, CHIP 15PF 5% 50V

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Ref. No. or Q'ty	Part No.	SP	Description
C227-232	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C233-240	1-163-251-11	s	CERAMIC, CHIP 100PF 5% 50V
C241-249	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C250	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C251	1-163-231-11	s	CERAMIC, CHIP 15PF 5% 50V
C252	1-163-231-11	s	CERAMIC, CHIP 15PF 5% 50V
C253	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C254	1-163-231-11	s	CERAMIC, CHIP 15PF 5% 50V
C255	1-163-231-11	s	CERAMIC, CHIP 15PF 5% 50V
C256	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C257	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C258	1-163-231-11	s	CERAMIC, CHIP 15PF 5% 50V
C259	1-163-231-11	s	CERAMIC, CHIP 15PF 5% 50V
C260	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C261	1-163-231-11	s	CERAMIC, CHIP 15PF 5% 50V
C262	1-163-231-11	s	CERAMIC, CHIP 15PF 5% 50V
C263-267	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C268	1-126-405-11	s	ELECT, CHIP 10uF 20% 50V
C269	1-126-405-11	s	ELECT, CHIP 10uF 20% 50V
C270	1-163-017-00	s	CERAMIC, CHIP 0.0047uF 5% 50V
C271	1-163-017-00	s	CERAMIC, CHIP 0.0047uF 5% 50V
C272	1-126-404-11	s	ELECT 4.7uF 20% 50V
C273	1-126-404-11	s	ELECT 4.7uF 20% 50V
C274	1-126-400-11	s	ELECT, CHIP 22uF 20% 35V
C275	1-126-400-11	s	ELECT, CHIP 22uF 20% 35V
C276	1-126-400-11	s	ELECT, CHIP 22uF 20% 35V
C277	1-126-400-11	s	ELECT, CHIP 22uF 20% 35V
C278	1-163-251-11	s	CERAMIC, CHIP 100PF 5% 50V
C279	1-163-251-11	s	CERAMIC, CHIP 100PF 5% 50V
C280	1-163-251-11	s	CERAMIC, CHIP 100PF 5% 50V
C281	1-163-251-11	s	CERAMIC, CHIP 100PF 5% 50V
C282	1-163-231-11	s	CERAMIC, CHIP 15PF 5% 50V
C283	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C284	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C285	1-163-231-11	s	CERAMIC, CHIP 15PF 5% 50V
C286	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C287	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C288	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C289	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C290	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C291	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C292	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C293-297	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C298	1-163-231-11	s	CERAMIC, CHIP 15PF 5% 50V
C299	1-163-239-11	s	CERAMIC, CHIP 33PF 5% 50V
C300	1-126-400-11	s	ELECT, CHIP 22uF 20% 35V
C301	1-126-400-11	s	ELECT, CHIP 22uF 20% 35V
C302	1-126-400-11	s	ELECT, CHIP 22uF 20% 35V
C303	1-126-400-11	s	ELECT, CHIP 22uF 20% 35V
C304	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C305	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C306	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C307	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C308-315	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C316-323	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C324-331	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C332-339	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V

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Ref. No. or Q'ty	Part No.	SP	Description
C340-347	1-163-145-00	s	CERAMIC, CHIP 0.0015uF 5% 50V
C348-352	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C353-357	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C358-372	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C373-391	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C392	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C393	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C394	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C395	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C396	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C397	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C398	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C399	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C400	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C401	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C402	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C403-414	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C415-426	1-163-021-91	s	CERAMIC 0.01uF 10% 50V
C427	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C428	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C429	1-163-239-11	s	CERAMIC, CHIP 33PF 5% 50V
C430	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C431	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C432	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C433	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C434-445	1-163-021-91	s	CERAMIC 0.01uF 10% 50V
C446-453	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C454	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C455	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C456	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C457	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C458	1-163-239-11	s	CERAMIC, CHIP 33PF 5% 50V
C459	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C460	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C461	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C462	1-163-239-11	s	CERAMIC, CHIP 33PF 5% 50V
C463-474	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C475-482	1-163-251-11	s	CERAMIC, CHIP 100PF 5% 50V
C483	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C484	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C485	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C486	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C487	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C488	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C489	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C490	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C491	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C492	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C493	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C494	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C495	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C496	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C497	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C498	1-126-396-11	s	ELECT, CHIP 47uF 20% 16V
C499-506	1-163-239-11	s	CERAMIC, CHIP 33PF 5% 50V

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Ref. No. or Q'ty	Part No.	SP	Description
C507-522	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C523-538	1-104-666-11	s	ELECT 220uF 20% 25V
C539-548	1-163-037-11	s	CERAMIC, CHIP 0.022uF 10% 25V
C549	1-126-399-11	s	ELECT, CHIP 10uF 20% 35V
C550	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C551	1-163-251-11	s	CERAMIC, CHIP 100PF 5% 50V
C552	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C553	1-163-037-11	s	CERAMIC, CHIP 0.022uF 10% 25V
C554	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C555	1-126-400-11	s	ELECT, CHIP 22uF 20% 35V
C556	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C557	1-163-037-11	s	CERAMIC, CHIP 0.022uF 10% 25V
C558	1-163-037-11	s	CERAMIC, CHIP 0.022uF 10% 25V
C559	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
CN100	1-568-144-11	o	CONNECTOR, DIN 96P, FEMALE
CN101	1-568-144-11	o	CONNECTOR, DIN 96P, FEMALE
CN500	1-506-471-11	o	CONNECTOR, 6P, MALE
CP100	1-466-721-11	s	CONVERTER UNIT, DC-DC(YDS-205)
CP101	1-475-703-11	s	CONVERTER UNIT, DC-DC
CP102	1-475-701-11	s	CONVERTER UNIT, DC-DC
CP103	1-647-398-11	s	CONVERTER, UNIT DC-DC
D100-116	8-719-104-34	s	DIODE 1S2836
D117	8-719-064-40	s	DIODE DE5SC3ML-TA
D200	8-719-104-34	s	DIODE 1S2836
D201	8-719-104-34	s	DIODE 1S2836
D202	8-719-104-34	s	DIODE 1S2836
D203	8-719-104-34	s	DIODE 1S2836
D204	8-719-200-02	s	DIODE 10E-2
D205	8-719-200-02	s	DIODE 10E-2
D206-213	8-719-109-97	s	DIODE RD6.8ES-B2
D214-225	8-719-104-34	s	DIODE 1S2836
D300-308	8-719-104-34	s	DIODE 1S2836
D309	8-719-109-66	s	DIODE RD3.3ES-B2
D400-420	8-719-104-34	s	DIODE 1S2836
D500	8-719-104-34	s	DIODE 1S2836
D501	8-719-104-34	s	DIODE 1S2836
FB100-107	1-543-622-11	s	BEAD, FERRITE
FB200	1-543-622-11	s	BEAD, FERRITE
FB201	1-543-622-11	s	BEAD, FERRITE
FB202	1-543-622-11	s	BEAD, FERRITE
FB203	1-543-622-11	s	BEAD, FERRITE
IC100	8-759-924-48	s	IC BA4560F-T2
IC101	8-759-924-48	s	IC BA4560F-T2
IC102	8-759-701-39	s	IC NJM3404AM
IC103	8-759-701-39	s	IC NJM3404AM
IC104	8-759-701-47	s	IC NJM2930L-05
IC106-113	8-759-394-76	s	IC NJM2068M-D-TE2
IC114	8-759-924-48	s	IC BA4560F-T2
IC115	8-759-924-48	s	IC BA4560F-T2
IC116	8-759-924-48	s	IC BA4560F-T2
IC200-204	8-759-924-48	s	IC BA4560F-T2

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Ref. No. or Q'ty	Part No.	SP	Description
IC205	8-759-158-98	s	IC SSM-2017P
IC206	8-759-158-98	s	IC SSM-2017P
IC300	8-759-701-47	s	IC NJM2930L-05
IC301	8-759-701-47	s	IC NJM2930L-05
IC302	8-759-701-47	s	IC NJM2930L-05
IC303	8-759-701-47	s	IC NJM2930L-05
IC304	8-759-701-39	s	IC NJM3404AM
-311			
IC312	8-759-471-38	s	IC AK4520A-VF-E2
-316			
IC317	8-759-924-48	s	IC BA4560F-T2
IC318	8-759-924-48	s	IC BA4560F-T2
IC319	8-759-924-48	s	IC BA4560F-T2
IC320	8-759-924-48	s	IC BA4560F-T2
IC321	8-759-113-77	s	IC UPD5201G
IC322	8-759-113-77	s	IC UPD5201G
IC323	8-759-113-77	s	IC UPD5201G
IC324	8-759-924-48	s	IC BA4560F-T2
IC326	8-759-113-77	s	IC UPD5201G
-330			
IC331	8-759-924-48	s	IC BA4560F-T2
IC332	8-759-924-48	s	IC BA4560F-T2
IC400	8-759-700-94	s	IC NJM5532M
IC401	8-759-700-94	s	IC NJM5532M
IC402	8-759-700-94	s	IC NJM5532M
IC403	8-759-700-94	s	IC NJM5532M
IC404	8-759-158-99	s	IC SSM-2142P
-411			
IC412	8-759-186-30	s	IC TC74VHC14F
IC413	8-759-186-77	s	IC TC74VHC541F
IC414	8-759-186-77	s	IC TC74VHC541F
IC415	8-759-186-77	s	IC TC74VHC541F
IC416	8-759-186-77	s	IC TC74VHC541F
IC417	8-759-186-63	s	IC TC74VHC245F
IC418	8-759-186-47	s	IC TC74VHC138F
IC419	8-759-272-62	s	IC 74VHC32SJX
IC420	8-752-381-84	s	IC CXD1095BQ
IC421	8-759-186-56	s	IC TC74VHC174F
IC422	8-759-246-45	s	IC TC35083F
IC423	8-759-186-77	s	IC TC74VHC541F
IC424	8-759-701-47	s	IC NJM2930L-05
IC425	8-752-381-84	s	IC CXD1095BQ
IC426	8-759-081-42	s	IC TC74VHC00F
L100	1-412-137-11	s	INDUCTOR 10UH
L101	1-412-137-11	s	INDUCTOR 10UH
Q100-113	8-729-029-04	s	TRANSISTOR DTC123JUA-T106
Q114	8-729-271-32	s	TRANSISTOR 2SC2713-L
Q200	8-729-029-04	s	TRANSISTOR DTC123JUA-T106
Q201	8-729-029-04	s	TRANSISTOR DTC123JUA-T106
Q202	8-729-029-04	s	TRANSISTOR DTC123JUA-T106
Q203	8-729-029-04	s	TRANSISTOR DTC123JUA-T106
Q204	8-729-907-00	s	TRANSISTOR DTC114EU
Q205	8-729-907-00	s	TRANSISTOR DTC114EU
Q206	8-729-271-32	s	TRANSISTOR 2SC2713-L
Q207	8-729-271-32	s	TRANSISTOR 2SC2713-L
Q208-219	8-729-029-04	s	TRANSISTOR DTC123JUA-T106
Q300	8-729-271-32	s	TRANSISTOR 2SC2713-L

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Ref. No. or Q'ty	Part No.	SP	Description
Q400-417	8-729-029-04	s	TRANSISTOR DTC123JUA-T106
Q418	8-729-028-81	s	TRANSISTOR DTA123JUA-T106
Q419	8-729-029-04	s	TRANSISTOR DTC123JUA-T106
R100	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R101	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R102	1-216-017-91	s	METAL, CHIP 47 5% 1/10W
R103	1-216-017-91	s	METAL, CHIP 47 5% 1/10W
R104	1-216-017-91	s	METAL, CHIP 47 5% 1/10W
R105	1-216-017-91	s	METAL, CHIP 47 5% 1/10W
R106	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R107	1-216-699-11	s	METAL, CHIP 100K 0.5% 1/10W
R108	1-216-699-11	s	METAL, CHIP 100K 0.5% 1/10W
R109	1-218-776-11	s	METAL, CHIP 1M 0.50% 1/10W
R110	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R111	1-216-699-11	s	METAL, CHIP 100K 0.5% 1/10W
R112	1-216-699-11	s	METAL, CHIP 100K 0.5% 1/10W
R113	1-218-776-11	s	METAL, CHIP 1M 0.50% 1/10W
R114	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R115	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R116	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R117	1-216-686-11	s	METAL, CHIP 30K 0.5% 1/10W
R118	1-216-666-11	s	METAL, CHIP 4.3K 0.5% 1/10W
R119	1-216-680-11	s	METAL, CHIP 16K 0.5% 1/10W
R120	1-216-692-11	s	METAL, CHIP 51K 0.5% 1/10W
R121	1-216-666-11	s	METAL, CHIP 4.3K 0.5% 1/10W
R122	1-216-680-11	s	METAL, CHIP 16K 0.5% 1/10W
R123	1-216-692-11	s	METAL, CHIP 51K 0.5% 1/10W
R124	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R125	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R126	1-216-667-11	s	METAL, CHIP 4.7K 0.5% 1/10W
R127	1-216-667-11	s	METAL, CHIP 4.7K 0.5% 1/10W
R128	1-216-667-11	s	METAL, CHIP 4.7K 0.5% 1/10W
R129	1-216-667-11	s	METAL, CHIP 4.7K 0.5% 1/10W
R130	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R131	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R132	1-216-659-11	s	METAL, CHIP 2.2K 0.5% 1/10W
R133	1-216-659-11	s	METAL, CHIP 2.2K 0.5% 1/10W
R134	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R135	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R136	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R137	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R138	1-216-639-11	s	METAL, CHIP 330 0.5% 1/10W
R139	1-216-639-11	s	METAL, CHIP 330 0.5% 1/10W
R140	1-216-639-11	s	METAL, CHIP 330 0.5% 1/10W
R141	1-216-639-11	s	METAL, CHIP 330 0.5% 1/10W
R142-149	1-216-620-11	s	METAL, CHIP 51 0.50% 1/10W
R150-157	1-216-699-11	s	METAL, CHIP 100K 0.5% 1/10W
R158	1-216-650-11	s	METAL, CHIP 910 0.5% 1/10W
R159	1-216-650-11	s	METAL, CHIP 910 0.5% 1/10W
R160	1-216-650-11	s	METAL, CHIP 910 0.5% 1/10W
R161	1-216-650-11	s	METAL, CHIP 910 0.5% 1/10W
R162	1-216-017-91	s	METAL, CHIP 47 5% 1/10W
R163	1-216-691-11	s	METAL, CHIP 47K 0.5% 1/10W
R164	1-216-691-11	s	METAL, CHIP 47K 0.5% 1/10W
R165	1-216-017-91	s	METAL, CHIP 47 5% 1/10W
R166	1-216-017-91	s	METAL, CHIP 47 5% 1/10W
R167	1-216-691-11	s	METAL, CHIP 47K 0.5% 1/10W

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Ref. No. or Q'ty	Part No.	SP	Description
R168	1-216-691-11	s	METAL, CHIP 47K 0.5% 1/10W
R169	1-216-017-91	s	METAL, CHIP 47 5% 1/10W
R170	1-216-017-91	s	METAL, CHIP 47 5% 1/10W
R171	1-216-691-11	s	METAL, CHIP 47K 0.5% 1/10W
R172	1-216-691-11	s	METAL, CHIP 47K 0.5% 1/10W
R173	1-216-017-91	s	METAL, CHIP 47 5% 1/10W
R174	1-216-017-91	s	METAL, CHIP 47 5% 1/10W
R175	1-216-691-11	s	METAL, CHIP 47K 0.5% 1/10W
R176	1-216-691-11	s	METAL, CHIP 47K 0.5% 1/10W
R177	1-216-017-91	s	METAL, CHIP 47 5% 1/10W
R178-193	1-216-667-11	s	METAL, CHIP 4.7K 0.5% 1/10W
R194	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R195	1-216-665-11	s	METAL, CHIP 3.9K 0.5% 1/10W
R196	1-216-662-11	s	METAL, CHIP 3K 0.5% 1/10W
R197	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R198	1-216-665-11	s	METAL, CHIP 3.9K 0.5% 1/10W
R199	1-216-662-11	s	METAL, CHIP 3K 0.5% 1/10W
R200	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R201	1-216-665-11	s	METAL, CHIP 3.9K 0.5% 1/10W
R202	1-216-662-11	s	METAL, CHIP 3K 0.5% 1/10W
R203	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R204	1-216-665-11	s	METAL, CHIP 3.9K 0.5% 1/10W
R205	1-216-662-11	s	METAL, CHIP 3K 0.5% 1/10W
R206	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R207	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R208	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R209	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R210	1-216-691-11	s	METAL, CHIP 47K 0.5% 1/10W
R211	1-216-691-11	s	METAL, CHIP 47K 0.5% 1/10W
R212	1-216-691-11	s	METAL, CHIP 47K 0.5% 1/10W
R213	1-216-691-11	s	METAL, CHIP 47K 0.5% 1/10W
R214	1-216-665-11	s	METAL, CHIP 3.9K 0.5% 1/10W
R215	1-216-665-11	s	METAL, CHIP 3.9K 0.5% 1/10W
R216	1-216-665-11	s	METAL, CHIP 3.9K 0.5% 1/10W
R217	1-216-665-11	s	METAL, CHIP 3.9K 0.5% 1/10W
R218	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R219	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R220	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R221	1-216-651-11	s	METAL, CHIP 1K 0.5% 1/10W
R222	1-216-658-11	s	METAL, CHIP 2K 0.5% 1/10W
R223	1-216-658-11	s	METAL, CHIP 2K 0.5% 1/10W
R224	1-216-658-11	s	METAL, CHIP 2K 0.5% 1/10W
R225	1-216-658-11	s	METAL, CHIP 2K 0.5% 1/10W
R226	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R227	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R228	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R229	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R230	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R231	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R232	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R233	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R234	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R235	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R236	1-216-017-91	s	METAL, CHIP 47 5% 1/10W
R237	1-216-017-91	s	METAL, CHIP 47 5% 1/10W
R238	1-216-017-91	s	METAL, CHIP 47 5% 1/10W
R239	1-216-017-91	s	METAL, CHIP 47 5% 1/10W
R240	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W

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Ref. No. or Q'ty	Part No.	SP Description
R241	1-216-683-11	s METAL, CHIP 22K 0.5% 1/10W
R242	1-216-675-11	s METAL, CHIP 10K 0.5% 1/10W
R243	1-216-675-11	s METAL, CHIP 10K 0.5% 1/10W
R244	1-216-675-11	s METAL, CHIP 10K 0.5% 1/10W
R245	1-216-675-11	s METAL, CHIP 10K 0.5% 1/10W
R246	1-216-081-00	s METAL, CHIP 22K 5% 1/10W
R247	1-216-073-00	s METAL, CHIP 10K 5% 1/10W
R248	1-216-675-11	s METAL, CHIP 10K 0.5% 1/10W
R249	1-216-017-91	s METAL, CHIP 47 5% 1/10W
R250	1-216-017-91	s METAL, CHIP 47 5% 1/10W
R251	1-216-679-11	s METAL, CHIP 15K 0.5% 1/10W
R252	1-216-675-11	s METAL, CHIP 10K 0.5% 1/10W
R253	1-216-073-00	s METAL, CHIP 10K 5% 1/10W
R254	1-216-059-00	s METAL, CHIP 2.7K 5% 1/10W
R255	1-216-691-11	s METAL, CHIP 47K 0.5% 1/10W
R256	1-216-691-11	s METAL, CHIP 47K 0.5% 1/10W
R257	1-216-691-11	s METAL, CHIP 47K 0.5% 1/10W
R258	1-216-691-11	s METAL, CHIP 47K 0.5% 1/10W
R259-266	1-216-097-91	s METAL, CHIP 100K 5% 1/10W
R267-274	1-216-675-11	s METAL, CHIP 10K 0.5% 1/10W
R275	1-216-017-91	s METAL, CHIP 47 5% 1/10W
R276	1-216-079-00	s METAL, CHIP 18K 5% 1/10W
R277	1-216-079-00	s METAL, CHIP 18K 5% 1/10W
R278	1-216-017-91	s METAL, CHIP 47 5% 1/10W
R279	1-216-079-00	s METAL, CHIP 18K 5% 1/10W
R280	1-216-079-00	s METAL, CHIP 18K 5% 1/10W
R281	1-216-017-91	s METAL, CHIP 47 5% 1/10W
R282	1-216-079-00	s METAL, CHIP 18K 5% 1/10W
R283	1-216-079-00	s METAL, CHIP 18K 5% 1/10W
R284	1-216-017-91	s METAL, CHIP 47 5% 1/10W
R285	1-216-079-00	s METAL, CHIP 18K 5% 1/10W
R286	1-216-079-00	s METAL, CHIP 18K 5% 1/10W
R287	1-216-699-11	s METAL, CHIP 100K 0.5% 1/10W
R288	1-216-699-11	s METAL, CHIP 100K 0.5% 1/10W
R289	1-216-699-11	s METAL, CHIP 100K 0.5% 1/10W
R290	1-216-699-11	s METAL, CHIP 100K 0.5% 1/10W
R291	1-216-691-11	s METAL, CHIP 47K 0.5% 1/10W
R292	1-216-691-11	s METAL, CHIP 47K 0.5% 1/10W
R293	1-216-691-11	s METAL, CHIP 47K 0.5% 1/10W
R294	1-216-691-11	s METAL, CHIP 47K 0.5% 1/10W
R295-302	1-216-097-91	s METAL, CHIP 100K 5% 1/10W
R303	1-216-675-11	s METAL, CHIP 10K 0.5% 1/10W
R304	1-216-675-11	s METAL, CHIP 10K 0.5% 1/10W
R305	1-216-669-11	s METAL, CHIP 5.6K 0.5% 1/10W
R306	1-216-669-11	s METAL, CHIP 5.6K 0.5% 1/10W
R307	1-216-675-11	s METAL, CHIP 10K 0.5% 1/10W
R308	1-216-675-11	s METAL, CHIP 10K 0.5% 1/10W
R309	1-216-675-11	s METAL, CHIP 10K 0.5% 1/10W
R310	1-216-675-11	s METAL, CHIP 10K 0.5% 1/10W
R311	1-216-017-91	s METAL, CHIP 47 5% 1/10W
R312	1-216-079-00	s METAL, CHIP 18K 5% 1/10W
R313	1-216-079-00	s METAL, CHIP 18K 5% 1/10W
R314	1-216-017-91	s METAL, CHIP 47 5% 1/10W
R315	1-216-689-11	s METAL, CHIP 39K 0.5% 1/10W
R316	1-216-689-11	s METAL, CHIP 39K 0.5% 1/10W
R317	1-216-017-91	s METAL, CHIP 47 5% 1/10W
R318	1-216-079-00	s METAL, CHIP 18K 5% 1/10W

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Ref. No. or Q'ty	Part No.	SP Description
R319	1-216-079-00	s METAL, CHIP 18K 5% 1/10W
R320	1-216-017-91	s METAL, CHIP 47 5% 1/10W
R321	1-216-079-00	s METAL, CHIP 18K 5% 1/10W
R322	1-216-079-00	s METAL, CHIP 18K 5% 1/10W
R323	1-216-699-11	s METAL, CHIP 100K 0.5% 1/10W
R324	1-216-699-11	s METAL, CHIP 100K 0.5% 1/10W
R325	1-216-699-11	s METAL, CHIP 100K 0.5% 1/10W
R326	1-216-651-11	s METAL, CHIP 1K 0.5% 1/10W
R327	1-216-659-11	s METAL, CHIP 2.2K 0.5% 1/10W
R328	1-216-699-11	s METAL, CHIP 100K 0.5% 1/10W
R329	1-216-648-11	s METAL, CHIP 750 0.5% 1/10W
R330	1-216-665-11	s METAL, CHIP 3.9K 0.5% 1/10W
R331	1-216-103-00	s METAL, CHIP 180K 5% 1/10W
R332	1-216-103-00	s METAL, CHIP 180K 5% 1/10W
R333	1-216-689-11	s METAL, CHIP 39K 0.5% 1/10W
R334	1-216-689-11	s METAL, CHIP 39K 0.5% 1/10W
R335	1-216-069-00	s METAL, CHIP 6.8K 5% 1/10W
R336	1-216-069-00	s METAL, CHIP 6.8K 5% 1/10W
R337	1-216-069-00	s METAL, CHIP 6.8K 5% 1/10W
R338	1-216-069-00	s METAL, CHIP 6.8K 5% 1/10W
R339	1-216-121-91	s METAL, CHIP 1M 5% 1/10W
R340	1-216-121-91	s METAL, CHIP 1M 5% 1/10W
R341	1-216-089-91	s METAL, CHIP 47K 5% 1/10W
R342	1-216-089-91	s METAL, CHIP 47K 5% 1/10W
R343	1-216-089-91	s METAL, CHIP 47K 5% 1/10W
R344	1-216-089-91	s METAL, CHIP 47K 5% 1/10W
R345	1-216-684-91	s METAL, CHIP 24K 0.50% 1/10W
R346	1-216-684-91	s METAL, CHIP 24K 0.50% 1/10W
R347	1-216-073-00	s METAL, CHIP 10K 5% 1/10W
R348	1-216-671-11	s METAL, CHIP 6.8K 0.5% 1/10W
R349	1-216-671-11	s METAL, CHIP 6.8K 0.5% 1/10W
R350	1-216-017-91	s METAL, CHIP 47 5% 1/10W
R351	1-216-073-00	s METAL, CHIP 10K 5% 1/10W
R352	1-216-017-91	s METAL, CHIP 47 5% 1/10W
R353	1-216-659-11	s METAL, CHIP 2.2K 0.5% 1/10W
R354	1-216-659-11	s METAL, CHIP 2.2K 0.5% 1/10W
R355	1-216-017-91	s METAL, CHIP 47 5% 1/10W
R356	1-216-017-91	s METAL, CHIP 47 5% 1/10W
R357	1-216-017-91	s METAL, CHIP 47 5% 1/10W
R358	1-216-017-91	s METAL, CHIP 47 5% 1/10W
R359	1-216-615-11	s METAL, CHIP 33 0.5% 1/10W
R360	1-216-615-11	s METAL, CHIP 33 0.5% 1/10W
R361	1-216-654-11	s METAL, CHIP 1.3K 0.5% 1/10W
R362	1-216-609-11	s METAL, CHIP 18 0.5% 1/10W
R363	1-216-632-11	s METAL, CHIP 160 0.5% 1/10W
R364	1-216-609-11	s METAL, CHIP 18 0.5% 1/10W
R365	1-216-632-11	s METAL, CHIP 160 0.5% 1/10W
R366	1-216-059-00	s METAL, CHIP 2.7K 5% 1/10W
R367	1-216-083-00	s METAL, CHIP 27K 5% 1/10W
R368	1-216-121-91	s METAL, CHIP 1M 5% 1/10W
R369	1-216-615-11	s METAL, CHIP 33 0.5% 1/10W
R370	1-216-654-11	s METAL, CHIP 1.3K 0.5% 1/10W
R371	1-216-615-11	s METAL, CHIP 33 0.5% 1/10W
R372	1-216-654-11	s METAL, CHIP 1.3K 0.5% 1/10W
R373	1-216-073-00	s METAL, CHIP 10K 5% 1/10W
R374	1-216-684-91	s METAL, CHIP 24K 0.50% 1/10W
R375	1-216-067-00	s METAL, CHIP 5.6K 5% 1/10W
R376-391	1-216-667-11	s METAL, CHIP 4.7K 0.5% 1/10W

(APR-34 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R392-399	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R400-407	1-216-659-11	s	METAL, CHIP 2.2K 0.5% 1/10W
R408-423	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R424-439	1-216-639-11	s	METAL, CHIP 330 0.5% 1/10W
R440-463	1-216-025-91	s	METAL, CHIP 100 5% 1/10W
R464-468	1-216-308-00	s	METAL, CHIP 4.7 5% 1/10W
R469-476	1-216-097-91	s	METAL, CHIP 100K 5% 1/10W
R477-484	1-216-017-91	s	METAL, CHIP 47 5% 1/10W
R485-496	1-216-635-11	s	METAL, CHIP 220 0.5% 1/10W
R497-508	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R509	1-216-017-91	s	METAL, CHIP 47 5% 1/10W
R510	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R511	1-216-017-91	s	METAL, CHIP 47 5% 1/10W
R512	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R513	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R514	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R515	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R516	1-216-017-91	s	METAL, CHIP 47 5% 1/10W
R517-528	1-216-635-11	s	METAL, CHIP 220 0.5% 1/10W
R529-540	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R541-547	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R548	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R549	1-216-017-91	s	METAL, CHIP 47 5% 1/10W
R550	1-216-017-91	s	METAL, CHIP 47 5% 1/10W
R551	1-216-017-91	s	METAL, CHIP 47 5% 1/10W
R552	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R553	1-216-017-91	s	METAL, CHIP 47 5% 1/10W
R554	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R555	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R556	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R557	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R558	1-216-017-91	s	METAL, CHIP 47 5% 1/10W
R559	1-216-017-91	s	METAL, CHIP 47 5% 1/10W
R560	1-216-017-91	s	METAL, CHIP 47 5% 1/10W
R561	1-216-017-91	s	METAL, CHIP 47 5% 1/10W
R562-569	1-216-097-91	s	METAL, CHIP 100K 5% 1/10W
R570-577	1-216-656-11	s	METAL, CHIP 1.6K 0.5% 1/10W
R578-585	1-216-017-91	s	METAL, CHIP 47 5% 1/10W
R586	1-216-665-11	s	METAL, CHIP 3.9K 0.5% 1/10W
R587	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R588	1-218-776-11	s	METAL, CHIP 1M 0.50% 1/10W
R589	1-216-665-11	s	METAL, CHIP 3.9K 0.5% 1/10W
R590	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R591	1-218-776-11	s	METAL, CHIP 1M 0.50% 1/10W
R592	1-216-665-11	s	METAL, CHIP 3.9K 0.5% 1/10W
R593	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R594	1-218-776-11	s	METAL, CHIP 1M 0.50% 1/10W
R595	1-216-665-11	s	METAL, CHIP 3.9K 0.5% 1/10W
R596	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R597	1-218-776-11	s	METAL, CHIP 1M 0.50% 1/10W
R598	1-216-665-11	s	METAL, CHIP 3.9K 0.5% 1/10W
R599	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R600	1-218-776-11	s	METAL, CHIP 1M 0.50% 1/10W
R601	1-216-665-11	s	METAL, CHIP 3.9K 0.5% 1/10W
R602	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R603	1-218-776-11	s	METAL, CHIP 1M 0.50% 1/10W
R604	1-216-665-11	s	METAL, CHIP 3.9K 0.5% 1/10W
R605	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W

(APR-34 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R606	1-218-776-11	s	METAL, CHIP 1M 0.50% 1/10W
R607	1-216-665-11	s	METAL, CHIP 3.9K 0.5% 1/10W
R608	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R609	1-218-776-11	s	METAL, CHIP 1M 0.50% 1/10W
R610-617	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R618-625	1-216-666-11	s	METAL, CHIP 4.3K 0.5% 1/10W
R626-633	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R634-644	1-216-097-91	s	METAL, CHIP 100K 5% 1/10W
R645	1-216-097-91	s	METAL, CHIP 100K 5% 1/10W
R646	1-216-097-91	s	METAL, CHIP 100K 5% 1/10W
R647	1-216-097-91	s	METAL, CHIP 100K 5% 1/10W
R648	1-216-097-91	s	METAL, CHIP 100K 5% 1/10W
R649	1-216-097-91	s	METAL, CHIP 100K 5% 1/10W
R650-686	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R687-694	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R695-702	1-216-061-00	s	METAL, CHIP 3.3K 5% 1/10W
R703-710	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R711	1-218-769-11	s	METAL, CHIP 510K 0.50% 1/10W
R712	1-211-996-11	s	METAL, CHIP 1.5K 0.10% 1/10W
R713	1-211-996-11	s	METAL, CHIP 1.5K 0.10% 1/10W
R714	1-211-996-11	s	METAL, CHIP 1.5K 0.10% 1/10W
R715	1-218-769-11	s	METAL, CHIP 510K 0.50% 1/10W
R716	1-218-367-11	s	METAL, CHIP 10K 0.10% 1/10W
R717	1-211-997-11	s	METAL, CHIP 3K 0.10% 1/10W
R718-751	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R752	1-216-067-00	s	METAL, CHIP 5.6K 5% 1/10W
R753-797	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R798	1-216-693-11	s	METAL, CHIP 56K 0.5% 1/10W
R799	1-216-693-11	s	METAL, CHIP 56K 0.5% 1/10W
R800	1-216-683-11	s	METAL, CHIP 22K 0.5% 1/10W
R801	1-249-422-11	s	CARBON 2.7K 5% 1/4W
R802	1-216-693-11	s	METAL, CHIP 56K 0.5% 1/10W
R803	1-216-693-11	s	METAL, CHIP 56K 0.5% 1/10W
RV100	1-241-263-11	s	RES, ADJ, METAL 5K
RV101	1-241-261-41	s	RES, ADJ, CERMET 1K
RV201	1-241-261-41	s	RES, ADJ, CERMET 1K
RV300	1-241-265-11	s	RES, ADJ, METAL 20K
RY100	1-515-928-11	s	RELAY
RY101	1-515-928-11	s	RELAY
RY102	1-515-928-11	s	RELAY
RY103	1-515-928-11	s	RELAY
RY104	1-515-716-11	s	RELAY (TQ2-5V)
RY105	1-515-928-11	s	RELAY
-112			
RY113	1-515-716-11	s	RELAY (TQ2-5V)
RY200	1-515-716-11	s	RELAY (TQ2-5V)
-207			
RY208	1-515-928-11	s	RELAY
-220			
RY221	1-515-716-11	s	RELAY (TQ2-5V)
RY222	1-515-716-11	s	RELAY (TQ2-5V)
RY223	1-515-716-11	s	RELAY (TQ2-5V)
RY224	1-515-716-11	s	RELAY (TQ2-5V)
RY400	1-515-928-11	s	RELAY
-415			
RY416	1-515-716-11	s	RELAY (TQ2-5V)
-423			

CN-1582 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	A-8318-343-A	o MOUNTED CIRCUIT BOARD, CN-1582 (This assembly includes the following parts.)
2pcs	1-958-568-11	o HARNESS, SUB (CN SDI)
C1	1-126-392-11	s ELECT, CHIP 100uF 20% 6.3V
C2	1-115-339-11	s CERAMIC, CHIP 0.1uF 10% 50V
C3	1-126-392-11	s ELECT, CHIP 100uF 20% 6.3V
C4	1-115-339-11	s CERAMIC, CHIP 0.1uF 10% 50V
C5	1-126-392-11	s ELECT, CHIP 100uF 20% 6.3V
C6-10	1-115-339-11	s CERAMIC, CHIP 0.1uF 10% 50V
C12	1-115-339-11	s CERAMIC, CHIP 0.1uF 10% 50V
C14	1-115-339-11	s CERAMIC, CHIP 0.1uF 10% 50V
C16	1-115-339-11	s CERAMIC, CHIP 0.1uF 10% 50V
C18	1-107-682-11	s CERAMIC, CHIP 1uF 10% 16V
C20	1-126-394-11	s ELECT, CHIP 10uF 20% 16V
C22	1-163-243-11	s CERAMIC, CHIP 47PF 5% 50V
C24	1-115-339-11	s CERAMIC, CHIP 0.1uF 10% 50V
C26	1-107-682-11	s CERAMIC, CHIP 1uF 10% 16V
C28	1-115-339-11	s CERAMIC, CHIP 0.1uF 10% 50V
C30	1-126-394-11	s ELECT, CHIP 10uF 20% 16V
C32	1-115-339-11	s CERAMIC, CHIP 0.1uF 10% 50V
C34	1-115-339-11	s CERAMIC, CHIP 0.1uF 10% 50V
C36	1-126-394-11	s ELECT, CHIP 10uF 20% 16V
C38	1-115-339-11	s CERAMIC, CHIP 0.1uF 10% 50V
C40	1-115-339-11	s CERAMIC, CHIP 0.1uF 10% 50V
C42	1-163-227-11	s CERAMIC, CHIP 10PF 5% 50V
C44	1-115-339-11	s CERAMIC, CHIP 0.1uF 10% 50V
C46	1-126-394-11	s ELECT, CHIP 10uF 20% 16V
C48	1-115-339-11	s CERAMIC, CHIP 0.1uF 10% 50V
C50	1-107-682-11	s CERAMIC, CHIP 1uF 10% 16V
C52	1-115-339-11	s CERAMIC, CHIP 0.1uF 10% 50V
C54	1-115-339-11	s CERAMIC, CHIP 0.1uF 10% 50V
C56	1-115-339-11	s CERAMIC, CHIP 0.1uF 10% 50V
C58	1-163-243-11	s CERAMIC, CHIP 47PF 5% 50V
C60	1-115-339-11	s CERAMIC, CHIP 0.1uF 10% 50V
C62	1-115-339-11	s CERAMIC, CHIP 0.1uF 10% 50V
C64	1-107-682-11	s CERAMIC, CHIP 1uF 10% 16V
C66	1-115-339-11	s CERAMIC, CHIP 0.1uF 10% 50V
C68	1-126-394-11	s ELECT, CHIP 10uF 20% 16V
C70	1-115-339-11	s CERAMIC, CHIP 0.1uF 10% 50V
C72	1-126-394-11	s ELECT, CHIP 10uF 20% 16V
C100	1-126-392-11	s ELECT, CHIP 100uF 20% 6.3V
C101	1-126-392-11	s ELECT, CHIP 100uF 20% 6.3V
C102	1-126-392-11	s ELECT, CHIP 100uF 20% 6.3V
CN1	1-568-144-11	o CONNECTOR, DIN 96P, FEMALE
CN10	1-778-017-11	o CONNECTOR, D-SUB 25P, MALE
CN20	1-580-441-11	s JACK, RCA PHONO, 2P
CN30	1-573-566-11	s CONNECTOR, D-SUB 9P, FEMALE
CN110	1-560-357-11	o CONNECTOR, ILG 3P, MALE
CN111	1-560-357-11	o CONNECTOR, ILG 3P, MALE
FIL20	1-233-327-11	s FILTER, CHIP EMI
FIL21	1-233-327-11	s FILTER, CHIP EMI
FIL30	1-233-327-11	s FILTER, CHIP EMI
FIL31	1-233-327-11	s FILTER, CHIP EMI
FIL32	1-233-327-11	s FILTER, CHIP EMI
FIL33	1-233-327-11	s FILTER, CHIP EMI

(CN-1582 BOARD)

Ref. No. or Q'ty	Part No.	SP Description
FIL40-55	1-233-327-11	s FILTER, CHIP EMI
FIL100	1-424-009-11	s FILTER, NOISE (SIGNAL LINE)
FIL200	1-424-009-11	s FILTER, NOISE (SIGNAL LINE)
FIL300	1-424-009-11	s FILTER, NOISE (SIGNAL LINE)
IC2	8-759-186-77	s IC TC74VHC541F
IC3	8-759-186-77	s IC TC74VHC541F
IC10	8-752-078-34	s IC CXB1342R
IC14	8-752-080-61	s IC CXB1340N
L10	1-410-797-11	s INDUCTOR CHIP 0.015uH
L12	1-410-797-11	s INDUCTOR CHIP 0.015uH
R10	1-216-644-11	s METAL, CHIP 510 0.5% 1/10W
R12	1-216-644-11	s METAL, CHIP 510 0.5% 1/10W
R14	1-216-644-11	s METAL, CHIP 510 0.5% 1/10W
R16	1-216-644-11	s METAL, CHIP 510 0.5% 1/10W
R18	1-216-644-11	s METAL, CHIP 510 0.5% 1/10W
R20	1-216-644-11	s METAL, CHIP 510 0.5% 1/10W
R22	1-216-644-11	s METAL, CHIP 510 0.5% 1/10W
R24	1-216-644-11	s METAL, CHIP 510 0.5% 1/10W
R26	1-216-644-11	s METAL, CHIP 510 0.5% 1/10W
R28	1-216-644-11	s METAL, CHIP 510 0.5% 1/10W
R30	1-216-644-11	s METAL, CHIP 510 0.5% 1/10W
R34	1-216-651-11	s METAL, CHIP 1K 0.5% 1/10W
R40	1-216-624-11	s METAL, CHIP 75 0.5% 1/10W
R42	1-216-659-11	s METAL, CHIP 2.2K 0.5% 1/10W
R44	1-216-659-11	s METAL, CHIP 2.2K 0.5% 1/10W
R46	1-216-659-11	s METAL, CHIP 2.2K 0.5% 1/10W
R48	1-216-624-11	s METAL, CHIP 75 0.5% 1/10W
R50	1-216-624-11	s METAL, CHIP 75 0.5% 1/10W
R52	1-216-651-11	s METAL, CHIP 1K 0.5% 1/10W
R54	1-216-651-11	s METAL, CHIP 1K 0.5% 1/10W
R56	1-216-677-11	s METAL, CHIP 12K 0.5% 1/10W
R58	1-216-295-91	s METAL, CHIP 0 5% 1/10W
R60	1-216-624-11	s METAL, CHIP 75 0.5% 1/10W
R64	1-216-635-11	s METAL, CHIP 220 0.5% 1/10W
R68	1-216-635-11	s METAL, CHIP 220 0.5% 1/10W
R70	1-216-669-11	s METAL, CHIP 5.6K 0.5% 1/10W
R72	1-216-624-11	s METAL, CHIP 75 0.5% 1/10W
R100	1-216-677-11	s METAL, CHIP 12K 0.5% 1/10W
RV10	1-241-830-11	s RES, ADJ, CERMET 2K
S10	1-571-787-31	s SWITCH, PUSH

CN-1583 BOARD

Ref. No.
or Q'ty Part No. SP Description

1pc A-8318-092-A o MOUNTED CIRCUIT BOARD, CN-1583
(This assembly includes the following parts.)

C1	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C2	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
CN1	1-568-144-11	o	CONNECTOR, DIN 96P, FEMALE
CN100	1-778-017-11	o	CONNECTOR, D-SUB 25P, MALE
CN200	1-750-890-11	s	CONNECTOR, D-SUB 25P, FEMALE
CN300	1-573-566-11	s	CONNECTOR, D-SUB 9P, FEMALE
CN400	1-573-566-11	s	CONNECTOR, D-SUB 9P, FEMALE
CN410	1-573-566-11	s	CONNECTOR, D-SUB 9P, FEMALE
FIL100	1-233-327-11	s	FILTER, CHIP EMI
-115			
FIL200	1-233-327-11	s	FILTER, CHIP EMI
-215			
FIL300	1-233-327-11	s	FILTER, CHIP EMI
-303			
FIL400	1-233-327-11	s	FILTER, CHIP EMI
-403			
FIL410	1-233-327-11	s	FILTER, CHIP EMI
-413			

CN-1584 BOARD

Ref. No.
or Q'ty Part No. SP Description

1pc A-8318-093-A o MOUNTED CIRCUIT BOARD, CN-1584
(This assembly includes the following parts.)

C1	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C2	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C4	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C6	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C100	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C101	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C102	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
CN1	1-568-144-11	o	CONNECTOR, DIN 96P, FEMALE
CN100	1-573-566-11	s	CONNECTOR, D-SUB 9P, FEMALE
CN200	1-750-890-11	s	CONNECTOR, D-SUB 25P, FEMALE
CN300	1-573-693-11	o	CONNECTOR, D-SUB 37P, FEMALE
CN400	1-573-566-11	s	CONNECTOR, D-SUB 9P, FEMALE
CN410	1-573-566-11	s	CONNECTOR, D-SUB 9P, FEMALE
D100-115	8-719-801-41	s	DIODE 1SS196
FIL100	1-233-327-11	s	FILTER, CHIP EMI
FIL101	1-233-327-11	s	FILTER, CHIP EMI
FIL102	1-233-327-11	s	FILTER, CHIP EMI
FIL103	1-233-327-11	s	FILTER, CHIP EMI
FIL200	1-233-327-11	s	FILTER, CHIP EMI
-215			
FIL300	1-233-327-11	s	FILTER, CHIP EMI
-319			
FIL326	1-233-327-11	s	FILTER, CHIP EMI
-329			
FIL400	1-239-825-11	s	FILTER, CHIP EMI
-404			
FIL410	1-239-825-11	s	FILTER, CHIP EMI
-417			
IC4	8-759-271-78	s	IC DS26C32ATM
IC6	8-759-271-77	s	IC DS26C31TM
IC100	8-759-186-30	s	IC TC74VHC14F
IC101	8-759-186-30	s	IC TC74VHC14F
IC102	8-759-186-30	s	IC TC74VHC14F
Q100-115	8-729-904-69	s	TRANSISTOR DTD123EK
R11	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
R12	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
R13	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
R14	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
RB100	1-239-306-11	s	RESISTOR BLOCK, CHIP 10KX8
RB101	1-239-419-11	s	RESISTOR BLOCK 470X4
RB102	1-239-419-11	s	RESISTOR BLOCK 470X4
RB103	1-239-306-11	s	RESISTOR BLOCK, CHIP 10KX8
RB104	1-239-419-11	s	RESISTOR BLOCK 470X4
RB105	1-239-419-11	s	RESISTOR BLOCK 470X4
RB106	1-239-306-11	s	RESISTOR BLOCK, CHIP 10KX8

CN-1603 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	1-669-032-11	o PRINTED WIRING BOARD, CN-1603
2pcs	1-533-223-11	s HOLDER, FUSE
C1	1-126-399-11	s ELECT, CHIP 10uF 20% 35V
C2	1-126-399-11	s ELECT, CHIP 10uF 20% 35V
CN101	1-770-982-11	s JACK, DC
CN102	1-506-703-11	o CONNECTOR POST HEADER, ILG (4P)
F1	△ 1-576-228-11	s FUSE (H.B.C.) 2A 250V
L1	1-412-533-21	s INDUCTOR 47uH

DEC-102 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	A-8318-103-A	o MOUNTED CIRCUIT BOARD, DEC-102 (This assembly includes the following parts.)
2pcs	2-182-909-01	o LEVER, PC BOARD
2pcs	7-626-320-11	s PIN, SPRING 3X8
C1	1-107-682-11	s CERAMIC, CHIP 1uF 10% 16V
C2-6	1-128-339-11	s ELECT 2200uF 20% 16V
C100-109	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C110	1-128-391-11	s ELECT 330uF 20% 6.3V
C111	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C112	1-126-392-11	s ELECT, CHIP 100uF 20% 6.3V
C113	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C114	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C115	1-107-682-11	s CERAMIC, CHIP 1uF 10% 16V
C116	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C117	1-126-394-11	s ELECT, CHIP 10uF 20% 16V
C118-129	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C150	1-128-391-11	s ELECT 330uF 20% 6.3V
C151	1-107-682-11	s CERAMIC, CHIP 1uF 10% 16V
C152	1-107-682-11	s CERAMIC, CHIP 1uF 10% 16V
C153	1-128-391-11	s ELECT 330uF 20% 6.3V
C154	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C160	1-128-391-11	s ELECT 330uF 20% 6.3V
C161	1-107-682-11	s CERAMIC, CHIP 1uF 10% 16V
C162	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C163	1-128-391-11	s ELECT 330uF 20% 6.3V
C164	1-107-687-11	s TANTALUM, CHIP 3.3uF 20% 20V
C165	1-107-687-11	s TANTALUM, CHIP 3.3uF 20% 20V
C166	1-128-401-11	s ELECT 100uF 20% 25V
C167	1-107-682-11	s CERAMIC, CHIP 1uF 10% 16V
C168	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C169	1-107-682-11	s CERAMIC, CHIP 1uF 10% 16V
C170	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C171	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C172	1-128-391-11	s ELECT 330uF 20% 6.3V
C173	1-107-682-11	s CERAMIC, CHIP 1uF 10% 16V
C174	1-128-391-11	s ELECT 330uF 20% 6.3V
C175-188	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C189	1-128-391-11	s ELECT 330uF 20% 6.3V
C190	1-107-682-11	s CERAMIC, CHIP 1uF 10% 16V
C191	1-107-682-11	s CERAMIC, CHIP 1uF 10% 16V
C192	1-128-391-11	s ELECT 330uF 20% 6.3V
C194	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C198	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C199	1-128-391-11	s ELECT 330uF 20% 6.3V
C200-204	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C207	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C208	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C209	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C213	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C214	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C215	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C218-222	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V

(DEC-102 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
C250	1-128-391-11	s	ELECT 330uF 20% 6.3V
C251	1-107-682-11	s	CERAMIC, CHIP 1uF 10% 16V
C252	1-107-682-11	s	CERAMIC, CHIP 1uF 10% 16V
C253	1-128-391-11	s	ELECT 330uF 20% 6.3V
C300-326	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C350	1-128-391-11	s	ELECT 330uF 20% 6.3V
C351	1-107-682-11	s	CERAMIC, CHIP 1uF 10% 16V
C352	1-107-682-11	s	CERAMIC, CHIP 1uF 10% 16V
C353	1-128-391-11	s	ELECT 330uF 20% 6.3V
C400-414	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C450	1-128-391-11	s	ELECT 330uF 20% 6.3V
C451	1-107-682-11	s	CERAMIC, CHIP 1uF 10% 16V
C452	1-107-682-11	s	CERAMIC, CHIP 1uF 10% 16V
C453	1-128-391-11	s	ELECT 330uF 20% 6.3V
C500	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C501	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C502	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C504-515	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C550	1-128-391-11	s	ELECT 330uF 20% 6.3V
C551	1-107-682-11	s	CERAMIC, CHIP 1uF 10% 16V
C552	1-107-682-11	s	CERAMIC, CHIP 1uF 10% 16V
C553	1-128-391-11	s	ELECT 330uF 20% 6.3V
C600	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C601	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C602	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C604-619	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C650	1-128-391-11	s	ELECT 330uF 20% 6.3V
C651	1-107-682-11	s	CERAMIC, CHIP 1uF 10% 16V
C652	1-107-682-11	s	CERAMIC, CHIP 1uF 10% 16V
C653	1-128-391-11	s	ELECT 330uF 20% 6.3V
C700-716	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C750	1-128-391-11	s	ELECT 330uF 20% 6.3V
C751	1-107-682-11	s	CERAMIC, CHIP 1uF 10% 16V
C752	1-107-682-11	s	CERAMIC, CHIP 1uF 10% 16V
C753	1-128-391-11	s	ELECT 330uF 20% 6.3V
C754	1-128-391-11	s	ELECT 330uF 20% 6.3V
C755	1-107-682-11	s	CERAMIC, CHIP 1uF 10% 16V
C756	1-107-682-11	s	CERAMIC, CHIP 1uF 10% 16V
C757	1-128-391-11	s	ELECT 330uF 20% 6.3V
C758	1-128-391-11	s	ELECT 330uF 20% 6.3V
C759	1-107-682-11	s	CERAMIC, CHIP 1uF 10% 16V
C760	1-107-682-11	s	CERAMIC, CHIP 1uF 10% 16V
C761	1-128-391-11	s	ELECT 330uF 20% 6.3V
C762	1-128-391-11	s	ELECT 330uF 20% 6.3V
C763	1-107-682-11	s	CERAMIC, CHIP 1uF 10% 16V
C764	1-107-682-11	s	CERAMIC, CHIP 1uF 10% 16V
C765	1-128-391-11	s	ELECT 330uF 20% 6.3V
C766	1-128-391-11	s	ELECT 330uF 20% 6.3V
C767	1-107-682-11	s	CERAMIC, CHIP 1uF 10% 16V
C768	1-107-682-11	s	CERAMIC, CHIP 1uF 10% 16V
C769	1-128-391-11	s	ELECT 330uF 20% 6.3V
C770	1-128-391-11	s	ELECT 330uF 20% 6.3V
C771	1-107-682-11	s	CERAMIC, CHIP 1uF 10% 16V
C772	1-107-682-11	s	CERAMIC, CHIP 1uF 10% 16V

(DEC-102 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
C773	1-128-391-11	s	ELECT 330uF 20% 6.3V
C774	1-128-391-11	s	ELECT 330uF 20% 6.3V
C775	1-107-682-11	s	CERAMIC, CHIP 1uF 10% 16V
C776	1-107-682-11	s	CERAMIC, CHIP 1uF 10% 16V
C777	1-128-391-11	s	ELECT 330uF 20% 6.3V
C778	1-128-391-11	s	ELECT 330uF 20% 6.3V
C779	1-107-682-11	s	CERAMIC, CHIP 1uF 10% 16V
C780	1-107-682-11	s	CERAMIC, CHIP 1uF 10% 16V
C781	1-128-391-11	s	ELECT 330uF 20% 6.3V
C782	1-128-391-11	s	ELECT 330uF 20% 6.3V
C783	1-107-682-11	s	CERAMIC, CHIP 1uF 10% 16V
C784	1-107-682-11	s	CERAMIC, CHIP 1uF 10% 16V
C785	1-128-391-11	s	ELECT 330uF 20% 6.3V
C786	1-128-391-11	s	ELECT 330uF 20% 6.3V
C787	1-107-682-11	s	CERAMIC, CHIP 1uF 10% 16V
C788	1-107-682-11	s	CERAMIC, CHIP 1uF 10% 16V
C789	1-128-391-11	s	ELECT 330uF 20% 6.3V
C790	1-128-391-11	s	ELECT 330uF 20% 6.3V
C791	1-107-682-11	s	CERAMIC, CHIP 1uF 10% 16V
C792	1-107-682-11	s	CERAMIC, CHIP 1uF 10% 16V
C793	1-128-391-11	s	ELECT 330uF 20% 6.3V
CN1	1-568-144-11	o	CONNECTOR, DIN 96P, FEMALE
CN2	1-568-144-11	o	CONNECTOR, DIN 96P, FEMALE
CN204	1-560-368-00	o	CONNECTOR, POST HEADER 1LG 6P
D100-104	8-719-313-73	s	DIODE SFPB-52
FIL100	1-233-327-11	s	FILTER, CHIP EMI
FIL101	1-424-009-11	s	FILTER, NOISE (SIGNAL LINE)
FIL102	1-424-009-11	s	FILTER, NOISE (SIGNAL LINE)
FIL103	1-233-327-11	s	FILTER, CHIP EMI
FIL104	1-233-327-11	s	FILTER, CHIP EMI
FIL105	1-424-009-11	s	FILTER, NOISE (SIGNAL LINE)
FIL200	1-424-009-11	s	FILTER, NOISE (SIGNAL LINE)
FIL206	1-424-009-11	s	FILTER, NOISE (SIGNAL LINE)
FIL300	1-424-009-11	s	FILTER, NOISE (SIGNAL LINE)
FIL400	1-424-009-11	s	FILTER, NOISE (SIGNAL LINE)
FIL500	1-424-009-11	s	FILTER, NOISE (SIGNAL LINE)
FIL600	1-424-009-11	s	FILTER, NOISE (SIGNAL LINE)
FIL700	1-424-009-11	s	FILTER, NOISE (SIGNAL LINE)
FIL701	1-233-327-11	s	FILTER, CHIP EMI
FIL702	1-233-327-11	s	FILTER, CHIP EMI
FIL703	1-233-327-11	s	FILTER, CHIP EMI
FIL704	1-233-327-11	s	FILTER, CHIP EMI
FIL705	1-424-009-11	s	FILTER, NOISE (SIGNAL LINE)
FIL706	1-233-327-11	s	FILTER, CHIP EMI
-710			
IC100	8-759-186-77	s	IC TC74VHC541F
IC101	8-759-186-77	s	IC TC74VHC541F
IC102	8-759-186-77	s	IC TC74VHC541F
IC103	8-759-186-63	s	IC TC74VHC245F
IC107	8-759-186-77	s	IC TC74VHC541F
IC108	8-759-186-47	s	IC TC74VHC138F
IC109	8-759-186-77	s	IC TC74VHC541F
IC110	8-759-244-75	s	IC TC74AC541F
IC111	8-759-186-77	s	IC TC74VHC541F
IC112	8-759-527-34	o	IC EPC1PC8-IC112-V1.0
IC121	8-759-081-48	s	IC TC74VHC08F
IC122	8-759-296-24	s	IC CY7C199-20VC

(DEC-102 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
IC123	8-759-296-24	s	IC CY7C199-20VC
IC124	8-759-234-08	s	IC TA78L05F
IC125	8-759-926-77	s	IC SN74HC541ANS
IC126	8-759-926-82	s	IC SN74HC574ANS
IC200	8-759-296-24	s	IC CY7C199-20VC
IC201	8-759-296-24	s	IC CY7C199-20VC
IC202	8-759-290-53	s	IC CXD8919Q
IC205	8-759-236-79	s	IC TC74HC244AF
IC208	8-759-232-71	s	IC TC74HC161AF
IC211	8-759-296-24	s	IC CY7C199-20VC
IC212	8-759-296-24	s	IC CY7C199-20VC
IC300	8-752-375-99	s	IC CXD307-111G
IC301	8-759-290-52	s	IC CXD8920Q
IC302	8-759-328-04	s	IC CXD8943Q
IC303	8-759-296-24	s	IC CY7C199-20VC
IC304	8-759-296-24	s	IC CY7C199-20VC
IC305	8-759-296-24	s	IC CY7C199-20VC
IC306	8-759-296-24	s	IC CY7C199-20VC
IC400	8-759-336-55	o	IC GAL16V8-DEC77-IC205-V1.0
IC401	8-759-192-68	s	IC MSM518222-30JS
IC402	8-759-290-54	s	IC CXD8921Q
IC403	8-759-451-75	s	IC CY7C109-20VCTEL
IC405	8-759-032-23	s	IC MC74HC74AF
IC406	8-759-032-11	s	IC MC74HC04AF
IC407	8-759-985-25	s	IC 74AC32SJ
IC501	8-759-192-68	s	IC MSM518222-30JS
IC502	8-759-192-68	s	IC MSM518222-30JS
IC503	8-759-192-68	s	IC MSM518222-30JS
IC504	8-759-926-77	s	IC SN74HC541ANS
IC505	8-759-296-24	s	IC CY7C199-20VC
IC506	8-759-290-51	s	IC CXD8922Q
IC601	8-759-192-68	s	IC MSM518222-30JS
IC602	8-759-192-68	s	IC MSM518222-30JS
IC603	8-759-192-68	s	IC MSM518222-30JS
IC604	8-759-926-77	s	IC SN74HC541ANS
IC605	8-759-296-24	s	IC CY7C199-20VC
IC606	8-759-290-51	s	IC CXD8922Q
IC607	8-759-328-05	s	IC CXD8942Q
IC700	8-759-272-27	s	IC 74VHC04SJ
IC701	8-752-365-90	s	IC CXD2531BR
-708			
IS112	1-526-652-21	s	SOCKET, IC 8P
IS400	1-526-656-00	s	SOCKET, IC 20P
IS404	1-251-351-11	o	SOCKET, IC (PLCC) 44P
Q100	8-729-040-85	s	TRANSISTOR HAT2027R-EL
R1-7	1-216-085-00	s	METAL, CHIP 33K 5% 1/10W
R9-50	1-216-085-00	s	METAL, CHIP 33K 5% 1/10W
R51	1-216-631-11	s	METAL, CHIP 150 0.5% 1/10W
R52	1-216-631-11	s	METAL, CHIP 150 0.5% 1/10W
R53	1-216-621-11	s	METAL, CHIP 56 0.5% 1/10W
R54	1-216-621-11	s	METAL, CHIP 56 0.5% 1/10W
R100	1-216-603-11	s	METAL, CHIP 10 0.5% 1/10W
R101-116	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R117	1-216-655-11	s	METAL, CHIP 1.5K 0.5% 1/10W
R118	1-216-603-11	s	METAL, CHIP 10 0.5% 1/10W
R119	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
R121	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W

(DEC-102 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R122	1-216-603-11	s	METAL, CHIP 10 0.5% 1/10W
R123	1-216-668-11	s	METAL, CHIP 5.1K 0.5% 1/10W
R124	1-216-603-11	s	METAL, CHIP 10 0.5% 1/10W
R125	1-216-603-11	s	METAL, CHIP 10 0.5% 1/10W
R127	1-216-603-11	s	METAL, CHIP 10 0.5% 1/10W
R128	1-216-603-11	s	METAL, CHIP 10 0.5% 1/10W
R129	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
R130	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
R131	1-216-627-11	s	METAL, CHIP 100 0.5% 1/10W
R132	1-216-625-11	s	METAL, CHIP 82 0.5% 1/10W
R133	1-216-621-11	s	METAL, CHIP 56 0.5% 1/10W
R134	1-216-625-11	s	METAL, CHIP 82 0.5% 1/10W
R135	1-216-617-11	s	METAL, CHIP 100 0.5% 1/10W
R136	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R137	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R138	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R139	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R150	1-218-476-11	s	METAL, CHIP 180 5% 1/4W
R151	1-218-476-11	s	METAL, CHIP 180 5% 1/4W
R152	1-216-603-11	s	METAL, CHIP 10 0.5% 1/10W
R153	1-216-603-11	s	METAL, CHIP 10 0.5% 1/10W
R177	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R178	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R179	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R180	1-216-675-11	s	METAL, CHIP 10K 0.5% 1/10W
R181-185	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
R187	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
R189	1-216-295-91	s	METAL, CHIP 0 5% 1/10W
R191	1-216-603-11	s	METAL, CHIP 10 0.5% 1/10W
R199	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R200-205	1-216-065-91	s	METAL, CHIP 4.7K 5% 1/10W
R250	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R251	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R400-431	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R450	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R451	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R500-506	1-216-013-00	s	METAL, CHIP 33 5% 1/10W
R600-606	1-216-013-00	s	METAL, CHIP 33 5% 1/10W
R700	1-216-013-00	s	METAL, CHIP 33 5% 1/10W
R701	1-216-013-00	s	METAL, CHIP 33 5% 1/10W
S100	1-762-994-11	s	SWITCH, ROTARY
S101	1-762-994-11	s	SWITCH, ROTARY
X100	8-759-295-09	s	IC TLC2932IPW

DP-274 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	A-8318-098-A	o MOUNTED CIRCUIT BOARD, DP-274 (This assembly includes the following parts.)
CN2	1-750-145-11	o PIN, SIL 8P
CN3	1-750-145-11	o PIN, SIL 8P
D1	8-719-927-73	s DIODE SLR-55MC3
D2	8-719-927-73	s DIODE SLR-55MC3
D3	8-719-976-58	s DIODE SLR-55VR3F
D4	8-719-049-19	o DIODE SLB-55MG3F
D5	8-719-049-19	o DIODE SLB-55MG3F
D6-17	8-719-104-34	s DIODE 1S2836
S1	1-762-144-11	s SWITCH, PUSH (ILLUMINATED)
S2	1-762-145-11	s SWITCH, PUSH (ILLUMINATED)

DSP-82 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	A-8318-102-A	o MOUNTED CIRCUIT BOARD, DSP-82 (This assembly includes the following parts.)
2pcs	2-182-909-01	o LEVER, PC BOARD
2pcs	7-626-320-11	s PIN, SPRING 3X8
BS200	1-550-104-21	s HOLDER, BATTERY
C1	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C2	1-126-920-11	s ELECT 10000uF 20% 6.3V
C100	1-104-665-11	s ELECT 100uF 20% 25V
C101	1-104-665-11	s ELECT 100uF 20% 25V
C102	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C103	1-163-239-11	s CERAMIC, CHIP 33PF 5% 50V
C104	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C106	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C107	1-104-665-11	s ELECT 100uF 20% 25V
C108	1-126-925-11	s ELECT 470uF 20% 10V
C109	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C110	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C111	1-130-471-00	s MYLAR 0.001uF 5% 50V
C112	1-136-165-00	s FILM 0.1uF 5% 50V
C113	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C114	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C115	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C116	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C118-122	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C200-211	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C212	1-126-934-11	s ELECT 220uF 20% 16V
C213	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C214	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C215	1-163-275-11	s CERAMIC, CHIP 0.001uF 5% 50V
C216	1-126-966-11	s ELECT 33uF 20% 50V
C217-222	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C223	1-104-905-11	s CAPACITOR 0.22F 5.5V
C230	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C231	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C232	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C233	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C300-325	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C400-420	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C422	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C427-441	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C450	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C460	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C461	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C462	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C500-513	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C520	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C600-607	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C700-731	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
CN1	1-568-144-11	o CONNECTOR, DIN 96P, FEMALE
CN2	1-568-144-11	o CONNECTOR, DIN 96P, FEMALE
CN401	1-770-242-11	o CONNECTOR, IC CARD
CN700	1-564-862-11	o CONNECTOR 8P

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Ref. No. or Q'ty	Part No.	SP	Description
CN701	1-564-862-11	o	CONNECTOR 8P
D100	8-719-016-74	s	DIODE 1SS352
D101	8-719-016-74	s	DIODE 1SS352
D200	8-719-210-39	s	DIODE EC10QS-04
D201	8-719-989-22	s	DIODE CL-150R-CD
D203	8-719-210-39	s	DIODE EC10QS-04
D204	8-719-210-39	s	DIODE EC10QS-04
D400-407	8-719-989-22	s	DIODE CL-150R-CD
D408-415	8-719-987-43	s	DIODE CL-150PG-CD
FB200 -207	1-216-023-00	s	METAL, CHIP 82 5% 1/10W
FB208 -215	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
FB216 -220	1-216-023-00	s	METAL, CHIP 82 5% 1/10W
FL100	1-424-008-11	s	FILTER, NOISE (SIGNAL LINE)
IC100	8-759-998-40	s	IC SN75124NS
IC101	8-759-186-77	s	IC TC74VHC541F
IC103	8-759-186-77	s	IC TC74VHC541F
IC104	8-759-459-26	s	IC TC5081BP
IC105	8-759-186-77	s	IC TC74VHC541F
IC106	8-759-186-77	s	IC TC74VHC541F
IC107	8-759-527-41	o	IC EPM7032-CT-V1.0
IC108	8-759-186-75	s	IC TC74VHC540F
IC109	8-759-186-77	s	IC TC74VHC541F
IC110	8-759-186-77	s	IC TC74VHC541F
IC200	8-759-355-17	s	IC CY74FCT157ATSOC-T2
IC201	8-759-476-02	s	IC SN74ABT573ANS-E05
IC202	8-759-267-12	s	IC N80960SA-16
IC203	8-759-488-61	s	IC HM514270CJ-7
IC204	8-759-488-61	s	IC HM514270CJ-7
IC205	8-759-527-37	s	IC 28F400-SDDS-V1.00
IC206	8-759-527-36	s	IC 28F400-COEF-V1.00
IC207	8-759-355-17	s	IC CY74FCT157ATSOC-T2
IC208	8-759-476-02	s	IC SN74ABT573ANS-E05
IC209	8-759-488-61	s	IC HM514270CJ-7
IC210	8-759-488-61	s	IC HM514270CJ-7
IC211	8-759-354-88	o	IC PAL16V8-DSP61-IC117-V1.0
IC212	8-759-356-71	s	IC CXD8980J
IC213	8-759-274-52	s	IC MAX734CSA
IC214	8-759-476-03	s	IC SN74ABT245BNS-E05
IC215	8-759-925-80	s	IC SN74HC14ANS
IC216	8-759-476-03	s	IC SN74ABT245BNS-E05
IC217	8-759-275-98	s	IC MB3790PF
IC218	8-759-476-03	s	IC SN74ABT245BNS-E05
IC300	8-759-927-18	s	IC SN74HCT541ANS
IC301	8-759-927-18	s	IC SN74HCT541ANS
IC302	8-759-149-09	s	IC UPD71059GB-10-3B4
IC303	8-752-381-84	s	IC CXD1095BQ
IC304	8-759-926-49	s	IC SN74HC245ANS
IC305	8-759-927-18	s	IC SN74HCT541ANS
IC306	8-759-927-18	s	IC SN74HCT541ANS
IC307	8-759-927-18	s	IC SN74HCT541ANS
IC308	8-759-927-15	s	IC SN74HCT245ANS
IC309	8-759-926-77	s	IC SN74HC541ANS
IC310	8-759-186-38	s	IC TC74VHC32F

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Ref. No. or Q'ty	Part No.	SP	Description
IC311	8-759-927-18	s	IC SN74HCT541ANS
IC312	8-759-927-15	s	IC SN74HCT245ANS
IC313	8-759-926-77	s	IC SN74HC541ANS
IC314	8-759-186-30	s	IC TC74VHC14F
IC315	8-759-927-18	s	IC SN74HCT541ANS
IC316	8-759-927-18	s	IC SN74HCT541ANS
IC317	8-759-355-16	s	IC CY74FCT138ATSOC-T2
IC318	8-759-927-18	s	IC SN74HCT541ANS
IC319	8-759-354-87	o	IC PAL22V10-DSP61-IC113-V1.1
IC320	8-759-927-15	s	IC SN74HCT245ANS
IC321	8-759-927-15	s	IC SN74HCT245ANS
IC322	8-759-926-76	s	IC SN74HC540ANS
IC400	8-759-476-03	s	IC SN74ABT245BNS-E05
IC401	8-759-925-85	s	IC SN74HC32ANS
IC402	8-759-355-16	s	IC CY74FCT138ATSOC-T2
IC403	8-759-252-59	s	IC MAX202CSE
IC404	8-759-497-28	s	IC LC35256DM-10-TLM
IC405	8-752-381-84	s	IC CXD1095BQ
IC406	8-759-086-05	s	IC Z8523010VSC
IC407	8-759-927-46	s	IC SN74HC00ANS
IC408	8-759-476-03	s	IC SN74ABT245BNS-E05
IC409	8-759-355-16	s	IC CY74FCT138ATSOC-T2
IC410	8-759-252-59	s	IC MAX202CSE
IC411	8-759-476-03	s	IC SN74ABT245BNS-E05
IC412	8-759-510-41	s	IC RTC-62423A
IC413	8-759-926-49	s	IC SN74HC245ANS
IC415	8-759-086-05	s	IC Z8523010VSC
IC416	8-759-476-03	s	IC SN74ABT245BNS-E05
IC417	8-759-926-77	s	IC SN74HC541ANS
IC418	8-752-381-84	s	IC CXD1095BQ
IC419	8-759-252-59	s	IC MAX202CSE
IC420	8-759-476-03	s	IC SN74ABT245BNS-E05
IC421	8-759-926-56	s	IC SN74HC273ANS
IC422	8-759-355-16	s	IC CY74FCT138ATSOC-T2
IC423	8-759-926-77	s	IC SN74HC541ANS
IC424	8-759-926-82	s	IC SN74HC574ANS
IC425	8-759-355-16	s	IC CY74FCT138ATSOC-T2
IC450	8-759-497-28	s	IC LC35256DM-10-TLM
IC451	8-759-926-77	s	IC SN74HC541ANS
IC452	8-759-926-82	s	IC SN74HC574ANS
IC500	8-759-189-00	s	IC TMS57002DPHA
IC501	8-759-189-00	s	IC TMS57002DPHA
IC502	8-759-189-00	s	IC TMS57002DPHA
IC503	8-759-189-00	s	IC TMS57002DPHA
IC504	8-759-186-77	s	IC TC74VHC541F
IC505	8-759-272-27	s	IC 74VHC04SJ
IC506	8-759-290-76	o	IC GAL20V8-DSP61-IC64-V1.0
IC507	8-759-488-62	s	IC MSM514256C-60JSDR1
IC508	8-759-488-62	s	IC MSM514256C-60JSDR1
IC509	8-759-290-40	s	IC CXD8913Q
IC510	8-759-189-00	s	IC TMS57002DPHA
IC511	8-759-189-00	s	IC TMS57002DPHA
IC512	8-759-189-00	s	IC TMS57002DPHA
IC513	8-759-488-62	s	IC MSM514256C-60JSDR1
IC514	8-759-488-62	s	IC MSM514256C-60JSDR1
IC600	8-759-189-00	s	IC TMS57002DPHA
IC601	8-759-326-71	s	IC CXD8517Q
IC602	8-759-326-71	s	IC CXD8517Q
IC604	8-759-526-41	s	IC MSM514400DL-60SJDR1

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Ref. No. or Q'ty	Part No.	SP	Description
IC605	8-759-189-00	s IC	TMS57002DPHA
IC606	8-759-326-71	s IC	CXD8517Q
IC607	8-759-326-71	s IC	CXD8517Q
IC608	8-759-526-41	s IC	MSM514400DL-60SJDR1
IC700	8-759-186-77	s IC	TC74VHC541F
IC701	8-759-186-77	s IC	TC74VHC541F
IC702	8-759-527-40	o IC	EPM7032-SHBUS-V1.0
IC703	8-759-186-77	s IC	TC74VHC541F
IC704	8-759-186-63	s IC	TC74VHC245F
IC705	8-759-527-39	o IC	EPM7064-SPS-V1.0
IC706	8-759-186-63	s IC	TC74VHC245F
IC707	8-759-342-94	s IC	IDT71256SA20Y
IC708	8-759-359-25	s IC	IDT49FCT805S0
IC709	8-759-186-77	s IC	TC74VHC541F
IC710	8-759-527-39	o IC	EPM7064-SPS-V1.0
IC711	8-759-342-94	s IC	IDT71256SA20Y
IC712	8-759-527-38	o IC	EPM7064-ITDM-V1.0
IS107	1-251-351-11	o SOCKET, IC (PLCC)	44P
IS211	1-251-093-11	s SOCKET, IC (PLCC)	20P
IS212	1-251-272-11	s SOCKET, IC (PLCC)	84P
IS319	1-251-271-11	o SOCKET, IC (PLCC)	28P
IS506	1-251-271-11	o SOCKET, IC (PLCC)	28P
IS702	1-251-351-11	o SOCKET, IC (PLCC)	44P
IS705	1-251-351-11	o SOCKET, IC (PLCC)	44P
IS710	1-251-351-11	o SOCKET, IC (PLCC)	44P
IS712	1-251-351-11	o SOCKET, IC (PLCC)	44P
L1	1-403-580-11	s INDUCTOR	0UH
L200	1-424-641-11	s INDUCTOR	0UH
R100	1-216-667-11	s METAL, CHIP	4.7K 0.5% 1/10W
R101	1-215-394-00	s METAL	75 1% 1/6W
R102	1-220-253-11	s METAL, CHIP	47 5% 1/4W
R103	1-220-235-11	s METAL, CHIP	5.6 10% 1/4W
R104	1-216-651-11	s METAL, CHIP	1K 0.5% 1/10W
R105	1-216-653-11	s METAL, CHIP	1.2K 0.5% 1/10W
R106	1-216-668-11	s METAL, CHIP	5.1K 0.5% 1/10W
R108	1-216-667-11	s METAL, CHIP	4.7K 0.5% 1/10W
R109	1-216-667-11	s METAL, CHIP	4.7K 0.5% 1/10W
R110	1-216-667-11	s METAL, CHIP	4.7K 0.5% 1/10W
R112-116	1-216-667-11	s METAL, CHIP	4.7K 0.5% 1/10W
R150	1-216-019-00	s METAL, CHIP	56 5% 1/10W
R151	1-216-019-00	s METAL, CHIP	56 5% 1/10W
R152	1-216-019-00	s METAL, CHIP	56 5% 1/10W
R153	1-216-019-00	s METAL, CHIP	56 5% 1/10W
R154	1-216-025-91	s METAL, CHIP	100 5% 1/10W
R155-162	1-216-019-00	s METAL, CHIP	56 5% 1/10W
R163	1-216-025-91	s METAL, CHIP	100 5% 1/10W
R164-168	1-216-019-00	s METAL, CHIP	56 5% 1/10W
R169	1-216-025-91	s METAL, CHIP	100 5% 1/10W
R170	1-216-019-00	s METAL, CHIP	56 5% 1/10W
R171	1-216-025-91	s METAL, CHIP	100 5% 1/10W
R172	1-216-019-00	s METAL, CHIP	56 5% 1/10W
R173	1-216-025-91	s METAL, CHIP	100 5% 1/10W
R174	1-216-025-91	s METAL, CHIP	100 5% 1/10W
R175	1-216-019-00	s METAL, CHIP	56 5% 1/10W

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Ref. No. or Q'ty	Part No.	SP	Description
R200-204	1-216-089-91	s METAL, CHIP	47K 5% 1/10W
R205	1-216-025-91	s METAL, CHIP	100 5% 1/10W
R206-213	1-216-089-91	s METAL, CHIP	47K 5% 1/10W
R214	1-216-025-91	s METAL, CHIP	100 5% 1/10W
R215-219	1-216-089-91	s METAL, CHIP	47K 5% 1/10W
R220	1-216-025-91	s METAL, CHIP	100 5% 1/10W
R221	1-216-089-91	s METAL, CHIP	47K 5% 1/10W
R222	1-216-089-91	s METAL, CHIP	47K 5% 1/10W
R223	1-216-089-91	s METAL, CHIP	47K 5% 1/10W
R224	1-216-025-91	s METAL, CHIP	100 5% 1/10W
R225-234	1-216-089-91	s METAL, CHIP	47K 5% 1/10W
R235	1-216-025-91	s METAL, CHIP	100 5% 1/10W
R236	1-216-089-91	s METAL, CHIP	47K 5% 1/10W
R237	1-216-089-91	s METAL, CHIP	47K 5% 1/10W
R238	1-216-089-91	s METAL, CHIP	47K 5% 1/10W
R239	1-216-025-91	s METAL, CHIP	100 5% 1/10W
R240-247	1-216-089-91	s METAL, CHIP	47K 5% 1/10W
R248	1-216-025-91	s METAL, CHIP	100 5% 1/10W
R249	1-216-025-91	s METAL, CHIP	100 5% 1/10W
R250	1-216-089-91	s METAL, CHIP	47K 5% 1/10W
R251	1-216-025-91	s METAL, CHIP	100 5% 1/10W
R252	1-216-089-91	s METAL, CHIP	47K 5% 1/10W
R253	1-216-025-91	s METAL, CHIP	100 5% 1/10W
R254	1-216-089-91	s METAL, CHIP	47K 5% 1/10W
R255	1-216-025-91	s METAL, CHIP	100 5% 1/10W
R256	1-216-089-91	s METAL, CHIP	47K 5% 1/10W
R257	1-216-025-91	s METAL, CHIP	100 5% 1/10W
R258	1-216-089-91	s METAL, CHIP	47K 5% 1/10W
R259	1-216-089-91	s METAL, CHIP	47K 5% 1/10W
R260	1-216-089-91	s METAL, CHIP	47K 5% 1/10W
R261	1-216-089-91	s METAL, CHIP	47K 5% 1/10W
R262	1-216-025-91	s METAL, CHIP	100 5% 1/10W
R263	1-216-089-91	s METAL, CHIP	47K 5% 1/10W
R264	1-216-025-91	s METAL, CHIP	100 5% 1/10W
R265	1-216-089-91	s METAL, CHIP	47K 5% 1/10W
R266	1-216-025-91	s METAL, CHIP	100 5% 1/10W
R267	1-216-089-91	s METAL, CHIP	47K 5% 1/10W
R268	1-216-029-00	s METAL, CHIP	150 5% 1/10W
R269	1-216-089-91	s METAL, CHIP	47K 5% 1/10W
R270	1-216-025-91	s METAL, CHIP	27 5% 1/10W
R271	1-216-089-91	s METAL, CHIP	47K 5% 1/10W
R272	1-216-025-91	s METAL, CHIP	27 5% 1/10W
R273	1-216-089-91	s METAL, CHIP	47K 5% 1/10W
R274	1-216-025-91	s METAL, CHIP	27 5% 1/10W
R275	1-216-089-91	s METAL, CHIP	47K 5% 1/10W
R276	1-216-025-91	s METAL, CHIP	27 5% 1/10W
R277	1-216-089-91	s METAL, CHIP	47K 5% 1/10W
R278	1-216-029-00	s METAL, CHIP	150 5% 1/10W
R279	1-216-049-91	s METAL, CHIP	1K 5% 1/10W
R300	1-216-089-91	s METAL, CHIP	47K 5% 1/10W
R301-344	1-216-089-91	s METAL, CHIP	47K 5% 1/10W
R400-418	1-216-089-91	s METAL, CHIP	47K 5% 1/10W
R419	1-216-073-00	s METAL, CHIP	10K 5% 1/10W

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Ref. No. or Q'ty	Part No.	SP	Description
R420-448	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R449	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R450	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R451	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R452	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R453	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R454	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R455	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R456	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R457	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R458	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R459	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R460	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R470-477	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R478-485	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R500-505	1-216-089-91	s	METAL, CHIP 47K 5% 1/10W
R700-705	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R707-726	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R727-738	1-216-001-00	s	METAL, CHIP 10 5% 1/10W
R739	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R740	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R742	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R744	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R746-750	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R754-763	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R766-773	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R774	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R775	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R776	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R778	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R780-787	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R790-794	1-216-029-00	s	METAL, CHIP 150 5% 1/10W
R795	1-216-049-91	s	METAL, CHIP 1K 5% 1/10W
R796	1-216-019-00	s	METAL, CHIP 56 5% 1/10W
S200	1-572-438-11	s	SWITCH, PUSH
S400	1-571-967-11	s	SWITCH, DIP 8-CKT
S401	1-571-967-11	s	SWITCH, DIP 8-CKT
X100	1-767-172-11	s	CRYSTAL 22.5792MHZ
X200	1-760-453-21	s	CRYSTAL 64.000MHZ
X400	1-760-452-21	s	CRYSTAL 12.288MHZ
X700	1-760-528-11	s	CRYSTAL 40.000MHZ

KY-413 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-8318-094-A	o	MOUNTED CIRCUIT BOARD, KY-413 (This assembly includes the following parts.)
1pc	1-475-700-11	s	LCD MODULE
2pcs	7-682-947-01	s	SCREW +PSW 3X6
C100-106	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C107	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C108	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C109	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C110	1-164-489-11	s	CERAMIC, CHIP 0.22uF 10% 16V
C111	1-164-489-11	s	CERAMIC, CHIP 0.22uF 10% 16V
C201	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C205	1-126-392-11	s	ELECT, CHIP 100uF 20% 6.3V
C209	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C210	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C211	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C212	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C213	1-107-823-11	s	CERAMIC, CHIP 0.47uF 10% 16V
C214	1-107-823-11	s	CERAMIC, CHIP 0.47uF 10% 16V
C215	1-107-823-11	s	CERAMIC, CHIP 0.47uF 10% 16V
C216	1-107-823-11	s	CERAMIC, CHIP 0.47uF 10% 16V
C217	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C218	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C219-223	1-107-823-11	s	CERAMIC, CHIP 0.47uF 10% 16V
C224	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C225	1-107-823-11	s	CERAMIC, CHIP 0.47uF 10% 16V
C226	1-107-823-11	s	CERAMIC, CHIP 0.47uF 10% 16V
C227	1-107-823-11	s	CERAMIC, CHIP 0.47uF 10% 16V
C228	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C229	1-107-823-11	s	CERAMIC, CHIP 0.47uF 10% 16V
C230	1-163-038-91	s	CERAMIC, CHIP 0.1uF 25V
C231	1-107-823-11	s	CERAMIC, CHIP 0.47uF 10% 16V
C232	1-107-823-11	s	CERAMIC, CHIP 0.47uF 10% 16V
C300	1-102-516-11	s	CERAMIC 27PF 5% 50W
CN100	1-566-343-11	o	CONNECTOR, 40P, MALE
CN101	1-564-862-11	o	CONNECTOR 8P
CN102	1-564-013-11	o	CONNECTOR 3P, MALE
CN200	1-535-900-11	o	WIRE, JUMPER (5 CORE)
CN201	1-506-472-11	s	CONNECTOR, 7P, MALE
D100	8-719-800-76	s	DIODE 1SS226
D101	8-719-800-76	s	DIODE 1SS226
D200-207	8-719-059-16	s	DIODE BR5351K
D208-215	8-719-026-01	s	DIODE SLA-2651-32-B
D216-230	8-719-800-76	s	DIODE 1SS226
IC100	8-759-476-03	s	IC SN74ABT245BNS-E05
IC101	8-752-381-84	s	IC CXD1095BQ
IC102	8-759-476-03	s	IC SN74ABT245BNS-E05
IC103	8-759-527-35	o	IC GAL16V8-KY413-V1.0
IC104	8-759-476-03	s	IC SN74ABT245BNS-E05
IC105	8-759-926-37	s	IC SN74HC193ANS
IC106	8-759-925-80	s	IC SN74HC14ANS
IC200	8-759-287-64	s	IC CXD8914Q
IC201	8-759-195-05	s	IC MAX7219CNG
IC202	8-759-195-05	s	IC MAX7219CNG
IC203	8-759-186-38	s	IC TC74VHC32F
IC204	8-759-186-38	s	IC TC74VHC32F

(KY-413 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
IC205	8-759-925-80	s	IC SN74HC14ANS
IC206	8-759-186-38	s	IC TC74VHC32F
IC207	8-759-925-80	s	IC SN74HC14ANS
IC208	8-759-925-80	s	IC SN74HC14ANS
IC209	8-759-925-80	s	IC SN74HC14ANS
IC210	8-759-925-80	s	IC SN74HC14ANS
IC211	8-759-926-14	s	IC SN74HC148NS
IS103	1-251-093-11	s	SOCKET, IC (PLCC) 20P
Q200-217	8-729-029-04	s	TRANSISTOR DTC123JUA-T106
R100-107	1-216-059-00	s	METAL, CHIP 2.7K 5% 1/10W
R150	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R151	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R152	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R172	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R173	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R174	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R175	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R176	1-220-238-11	s	METAL, CHIP 10 5% 1/4W
R177	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R178	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R200	1-220-285-11	s	METAL, CHIP 10K 5% 1/4W
R201	1-220-285-11	s	METAL, CHIP 10K 5% 1/4W
R202	1-216-631-11	s	METAL, CHIP 150 0.5% 1/10W
R203	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R204	1-216-631-11	s	METAL, CHIP 150 0.5% 1/10W
R205	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R206	1-216-631-11	s	METAL, CHIP 150 0.5% 1/10W
R207	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R208	1-216-631-11	s	METAL, CHIP 150 0.5% 1/10W
R209-217	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R218-222	1-216-631-11	s	METAL, CHIP 150 0.5% 1/10W
R223	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R224	1-216-631-11	s	METAL, CHIP 150 0.5% 1/10W
R225	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R226	1-216-631-11	s	METAL, CHIP 150 0.5% 1/10W
R227	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R228	1-216-631-11	s	METAL, CHIP 150 0.5% 1/10W
R229-237	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R238	1-216-631-11	s	METAL, CHIP 150 0.5% 1/10W
R239	1-216-631-11	s	METAL, CHIP 150 0.5% 1/10W
R240	1-216-631-11	s	METAL, CHIP 150 0.5% 1/10W
R241	1-216-631-11	s	METAL, CHIP 150 0.5% 1/10W
R242	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R243	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R244	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R245	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R246	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R247	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R248	1-220-277-11	s	METAL, CHIP 2.2K 5% 1/4W
R249-258	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R267-273	1-216-073-00	s	METAL, CHIP 10K 5% 1/10W
R274	1-216-037-00	s	METAL, CHIP 330 5% 1/10W

(KY-413 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R275-282	1-216-021-00	s	METAL, CHIP 68 5% 1/10W
RB100	1-239-998-11	s	RESISTOR BLOCK 100X4
-107			
RB108	1-239-306-11	s	RESISTOR BLOCK, CHIP 10KX8
RB200	1-239-998-11	s	RESISTOR BLOCK 100X4
RB201	1-239-998-11	s	RESISTOR BLOCK 100X4
RB202	1-239-306-11	s	RESISTOR BLOCK, CHIP 10KX8
S200-207	1-762-145-11	s	SWITCH, PUSH (ILLUMINATED)
S208	1-571-654-21	s	SWITCH, PUSH
S209	1-571-654-21	s	SWITCH, PUSH
S210	1-571-654-21	s	SWITCH, PUSH
S212	1-571-654-21	s	SWITCH, PUSH
S213	1-571-654-21	s	SWITCH, PUSH

LED-322 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	1-669-035-11	o PRINTED WIRING BOARD, LED-322
D1	8-719-049-20	s DIODE LA-401DN
D2	8-719-049-20	s DIODE LA-401DN
D3	8-719-049-20	s DIODE LA-401DN
D4	8-719-049-20	s DIODE LA-401DN

MB-782 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	A-8318-090-A	o MOUNTED CIRCUIT BOARD, MB-782 (This assembly includes the following parts.)
C1	1-104-652-11	s ELECT 470uF 20% 10V
C2	1-101-004-00	s CERAMIC 0.01uF 50V
C3	1-104-652-11	s ELECT 470uF 20% 10V
C4	1-101-004-00	s CERAMIC 0.01uF 50V
CN100	1-566-343-11	o CONNECTOR, 40P, MALE
CN101	1-691-757-11	o PIN, CONNECTOR (PC BOARD) 8P
CN102	1-560-357-11	o CONNECTOR, ILG 3P, MALE
CN110	1-506-703-11	o CONNECTOR POST HEADER, ILG (4P)
CN120	1-506-706-11	o CONNECTOR, ILG 8P, MALE

SW-943 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	A-8318-095-A	o MOUNTED CIRCUIT BOARD, SW-943 (This assembly includes the following parts.)
C101	1-163-121-00	s CERAMIC, CHIP 150PF 5% 50V
C102	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C103	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C104	1-163-121-00	s CERAMIC, CHIP 150PF 5% 50V
C105	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C106	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
CN101	1-506-471-11	o CONNECTOR, 6P, MALE
CN102	1-506-472-11	s CONNECTOR, 7P, MALE
FL101	1-233-327-11	s FILTER, CHIP EMI
FL102	1-233-327-11	s FILTER, CHIP EMI
IC101	8-759-369-74	s IC NJM4556AM-TE2
IC102	8-759-369-74	s IC NJM4556AM-TE2
J101	1-563-255-11	s JACK (@phi@6.3)
R101	1-216-041-00	s METAL, CHIP 470 5% 1/10W
R102	1-216-049-91	s METAL, CHIP 1K 5% 1/10W
R103	1-216-073-00	s METAL, CHIP 10K 5% 1/10W
R104	1-218-282-11	s METAL, CHIP 22 5% 1/2W
R105	1-218-282-11	s METAL, CHIP 22 5% 1/2W
R106	1-216-041-00	s METAL, CHIP 470 5% 1/10W
R107	1-216-049-91	s METAL, CHIP 1K 5% 1/10W
R108	1-216-073-00	s METAL, CHIP 10K 5% 1/10W
R109	1-218-282-11	s METAL, CHIP 22 5% 1/2W
R110	1-218-282-11	s METAL, CHIP 22 5% 1/2W
RV101	1-241-577-11	s RES, VAR, CARBON 20KX2
S101	1-571-704-11	s SWITCH, ROTARY

SW-944 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	1-669-031-11	o PRINTED WIRING BOARD, SW-944
C101	1-126-400-11	s ELECT, CHIP 22uF 20% 35V
C102	1-115-670-11	s ELECT 220uF 20% 35V
C103	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
C104	1-126-400-11	s ELECT, CHIP 22uF 20% 35V
C105	1-115-670-11	s ELECT 220uF 20% 35V
C106	1-163-038-91	s CERAMIC, CHIP 0.1uF 25V
CN101	1-560-366-00	o CONNECTOR POST HEADER, ILG (4P)
CN102	1-560-369-00	o CONNECTOR, ILG 8P, MALE
CP101	1-475-699-11	s CONVERTER UNIT, DC-DC
CP102	1-475-699-11	s CONVERTER UNIT, DC-DC
Q101	8-729-271-32	s TRANSISTOR 2SC2713-L
Q102	8-729-271-32	s TRANSISTOR 2SC2713-L
R101	1-216-083-00	s METAL, CHIP 27K 5% 1/10W
R102	1-216-081-00	s METAL, CHIP 22K 5% 1/10W
R103	1-216-081-00	s METAL, CHIP 22K 5% 1/10W
R104	1-216-081-00	s METAL, CHIP 22K 5% 1/10W
R105	1-216-077-00	s METAL, CHIP 15K 5% 1/10W
R106	1-216-067-00	s METAL, CHIP 5.6K 5% 1/10W
R107	1-216-077-00	s METAL, CHIP 15K 5% 1/10W
R108	1-216-067-00	s METAL, CHIP 5.6K 5% 1/10W

SW-977 BOARD

Ref. No. or Q'ty	Part No.	SP Description
1pc	1-669-036-11	o PRINTED WIRING BOARD, SW-977
CN1	1-564-013-11	o CONNECTOR 3P, MALE
S1	1-692-523-11	s SWITCH, ROTARY

FRAME

Ref. No. or Q'ty	Part No.	SP Description
1pc	△ 1-251-148-11	s INLET, AC 3P, MALE
1pc	1-698-661-11	s MOTOR, DC
1pc	△ 1-468-292-11	s REGULATOR, SWITCHING
[HARNESS, SUB(WIRE, GROUND)]		
1pc	△ 1-565-787-21	o CONTACT, RECEPTACLE 1P
[HARNESS, SUB(AC SW)]		
1pc	△ 1-958-557-11	o HARNESS, SUB (AC SW)
		This cable includes the following connectors and parts.
		- (to SWITCHING REGULATOR)
		- (to AC INLET)
	△ 1-762-953-11	s SWITCH, POWER
[HARNESS, SUB(DC 5V)]		
1pc	1-958-562-11	o HARNESS, SUB (DC 5V)
		This cable includes the following connectors.
		CN101 (to MB-782 board)
		- (to SWITCHING REGULATOR)
[HARNESS, SUB(DC 5VCV)]		
1pc	1-958-563-11	o HARNESS, SUB (DC 5VCV)
		This cable includes the following connectors.
		CN101 (to SW-944 board)
		- (to SWITCHING REGULATOR)
[HARNESS, SUB(DC 24V)]		
1pc	1-958-564-11	o HARNESS, SUB (DC 24V)
		This cable includes the following connectors.
		CN120 (to MB-782 board)
		CN102 (to SW-944 board)
[HARNESS, SUB(DC 24VE)]		
1pc	1-958-565-11	o HARNESS, SUB (DC 24VE)
		This cable includes the following connectors.
		CN102 (to CN-1603 board)
		CN110 (to MB-782 board)
[HARNESS, SUB(DC FGND)]		
1pc	1-958-566-11	o HARNESS, SUB (DC FGND)
		This cable includes the following connectors.
		- (to SWITCHING REGULATOR)
		- (to CHASSIS)
[HARNESS, SUB(DC PGND)]		
2pcs	1-958-772-11	o HARNESS, SUB (DC PGND)
		This cable includes the following connectors.
		- (to KY-413 board)
		- (to SWITCHING REGULATOR)
[HARNESS, SUB(KY MB)]		
1pc	1-958-558-11	o HARNESS, SUB (KY MB)
		This cable includes the following connectors.
		CN100 (to KY-413 board)
		CN100 (to MB-782 board)
[HARNESS, SUB(SW JOG)]		
1pc	1-958-561-11	o HARNESS, SUB (SW JOG)
		This cable includes the following connectors.
		CN102 (to KY-413 board)
		CN1 (to SW-977 board)
[HARNESS, SUB(SW SLT)]		
1pc	1-958-559-11	o HARNESS, SUB (SW SLT)
		This cable includes the following connectors.
		CN201 (to KY-413 board)
		CN102 (to SW-943 board)
[HARNESS, SUB(SW VOL)]		

(FRAME)

Ref. No. or Q'ty	Part No.	SP Description
1pc	1-958-560-11	o HARNESS, SUB (SW VOL)
		This cable includes the following connectors.
		CN500 (to APR-34 board)
		CN101 (to SW-943 board)

3-4. Accessories Supplied

Ref. No. or Q'ty	Part No.	SP Description
1pc	△ 1-473-141-11	s ADAPTOR, AC (AC-S1151) (For J)
1pc	△ 1-473-247-11	s ADAPTOR, AC (AC-S1151) (For UC)
1pc	△ 1-473-248-11	s ADAPTOR, AC (AC-S1151) (For CE)
1pc	1-543-830-11	o CLAMP, SLEEVE FERRITE
1pc	△ 1-551-812-11	s CORD, POWER (For UC)
1pc	△ 1-575-181-11	s CORD SET, POWER (For J)
1pc	△ 1-782-929-21	s CORD, POWER SUPPLY (For CE)
4pcs	2-297-913-00	s WASHER (DIA5), ORNAMENTAL
1pc	2-990-242-01	s HOLDER (B), PLUG (For UC, J)
1pc	3-613-640-01	o PLUG, HOLDER C (For J, CE)
1pc	3-694-922-01	o SHEET, PROTECTION
4pcs	7-682-277-04	s SCREW +K 5X14

Section 4

Semiconductor Pin Assignments

ここに記載されている半導体は、それぞれの機能を等価的に表したものです。なお、互換性のない型名を併記していることがありますので、部品を交換するときは、Spare Partsの章を参照してください。

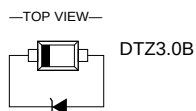
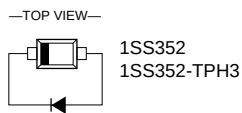
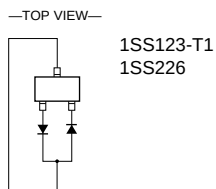
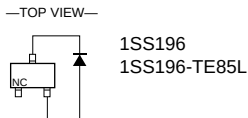
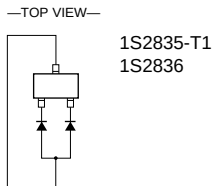
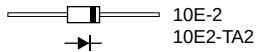
等価回路はICメーカーのデータブックに従いました。

Semiconductors of which functions are equivalent are described here. For parts replacement, refer to the section of Spare Parts in this manual. The circuit diagram of each IC is obtained from the IC data book published by the manufacturer.

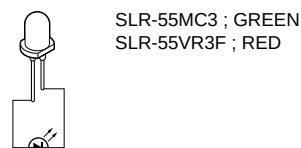
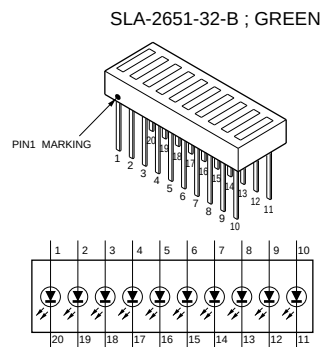
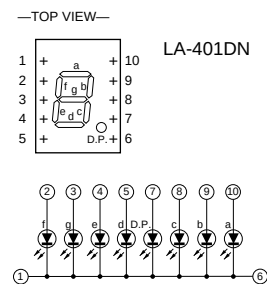
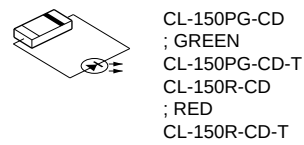
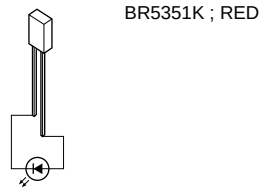
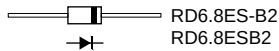
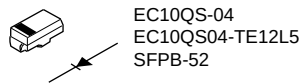
DIODE	Page	LED	Page	TRANSISTOR	Page
10E-2	4-3	BR5351K	4-3	2SC2713-L	4-3
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1S2835-T1	4-3	CL-150PG-CD	4-3	DE5SC3ML-TA	4-3
1S2836	4-3	CL-150PG-CD-T	4-3	DTA123JUA-T106	4-3
1SS123-T1	4-3	CL-150R-CD	4-3	DTC114EUA-T106	4-3
1SS196	4-3	CL-150R-CD-T	4-3	DTC123JUA-T106	4-3
1SS196-TE85L	4-3			DTD123EK	4-3
1SS226	4-3	LA-401DN	4-3	DTD123EK-T-146	4-3
1SS352	4-3				
1SS352-TPH3	4-3	SLA-2651-32-B	4-3	HAT2027R-EL	4-3
		SLR-55MC3	4-3		
DTZ3.0B	4-3	SLR-55VR3F	4-3		
EC10QS-04	4-3				
EC10QS04-TE12L5	4-3				
RD6.8ES-B2	4-3				
RD6.8ESB2	4-3				
SFPB-52	4-3				

IC	Page	IC	Page	IC	Page
74AC04SJ	4-4	NJM2930L-05	4-19	TC74VHC541F	4-21
74AC04SJX	4-4	NJM4556AM-TE2	4-4	TC74VHC541F(EL)	4-21
74AC32SJ	4-4	NJM5532M	4-4	TC74VHCT574F(EL)	4-22
74AC32SJX	4-4	NJM5532M(TE2)	4-4	TLC2932IPW	4-24
74VHC32SJX	4-4			TLC2932IPW-E05	4-24
		PA28F400BV-B60	4-19	TMS57002DPHA	4-25
AK4520A-VF-E2	4-4	PALC22V10D-25JC	4-19		
BA4560F	4-4	PALCE16V8-7JC	4-19	UPD5201G	4-24
BA4560F-T2	4-4	RTC-62423AL	4-20	UPD71059GB-10-3B4	4-24
				Z8523010VSC	4-26
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CXB1342R	4-5	SN74ABT245BNS-E05	4-19		
CXD1095BQ	4-6	SN74ABT573ANS-E05	4-20		
CXD2531BR	4-7	SN74HC00ANS	4-20		
CXD8517Q	4-8	SN74HC00ANS-E05	4-20		
CXD8913Q	4-5	SN74HC148ANS-E05	4-20		
CXD8914Q	4-6	SN74HC148NS	4-20		
CXD8919Q	4-8	SN74HC14ANS	4-21		
CXD8920Q	4-9	SN74HC193ANS	4-21		
CXD8921Q	4-9	SN74HC245ANS	4-19		
CXD8922Q	4-10	SN74HC273ANS-E05	4-21		
CXD8942Q	4-7	SN74HC32ANS	4-4		
CXD8943Q	4-11	SN74HC32ANS-E05	4-4		
CXD8980J	4-11	SN74HC540ANS	4-21		
CY74FCT138ATSOC-T2	4-11	SN74HC540ANS-E05	4-21		
CY74FCT157ATSOC-T2	4-12	SN74HC541ANS	4-21		
CY7C109-20VCTEL	4-12	SN74HC574ANS	4-22		
CY7C199-20VC	4-12	SN74HC574ANS-E05	4-22		
		SN74HCT245ANS	4-19		
DS26C31TM	4-13	SN74HCT245ANS-E05	4-19		
DS26C32ATM	4-13	SN74HCT541ANS	4-21		
		SN74HCT541ANS-E05	4-21		
EPC1PC8	4-13	SN75124NS	4-21		
EPF10K20TC144-3	4-13	SN75124NS-E05	4-21		
EPM7032LC44-15	4-14	SSM-2017P	4-22		
EPM7064LC44-15	4-14	SSM-2142P	4-22		
GAL16V8D-25LP	4-14	TA78L05F	4-22		
GAL16V8D-7LJ	4-14	TA78L05F-TE12L	4-22		
GAL20V8B-25QJ	4-14	TC35083F	4-22		
		TC5081AP	4-23		
HM514270CJ-7	4-15	TC74AC541F-EL	4-21		
		TC74HC04AF(EL)	4-4		
IDT49FCT805SO	4-15	TC74HC161AF	4-23		
IDT71256SA20Y	4-16	TC74HC161AF(EL)	4-23		
		TC74HC244AF(EL)	4-23		
LC35256DM-10-TLM	4-15	TC74HC74AF(EL)	4-23		
		TC74VHC00F	4-20		
MAX202CSE	4-16	TC74VHC00F(EL)	4-20		
MAX202CSE-T	4-16	TC74VHC08F(EL)	4-23		
MAX7219CNG	4-17	TC74VHC138F(EL)	4-11		
MAX734CSA	4-16	TC74VHC14F	4-21		
MB3790PF	4-17	TC74VHC14F(EL)	4-21		
MC74HC14AF	4-21	TC74VHC174F	4-24		
MSM514256C-60JSDR1	4-18	TC74VHC174F(EL)	4-24		
MSM514400DL-60SJDR1	4-18	TC74VHC245F(EL)	4-19		
MSM518222-30JS	4-18	TC74VHC32F	4-4		
		TC74VHC32F(EL)	4-4		
NJM2068M-D-TE2	4-4	TC74VHC540F(EL)	4-21		

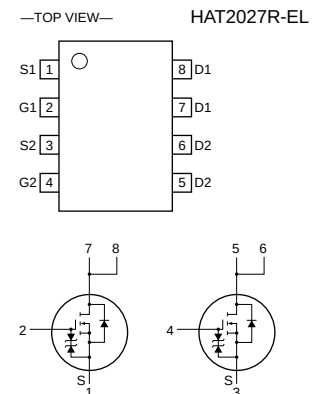
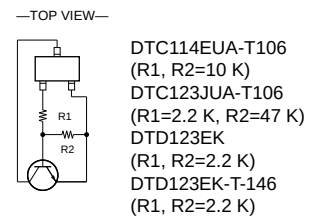
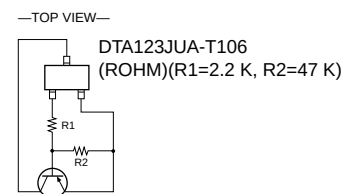
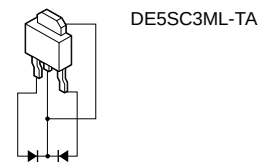
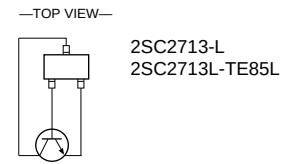
DIODE



LED

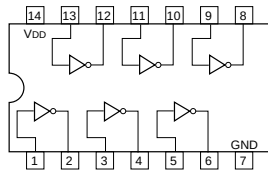


TRANSISTOR



74AC04SJ (NS)FLAT PACKAGE
74AC04SJX
TC74HC04AF(EL)

C-MOS HEX INVERTERS
—TOP VIEW—



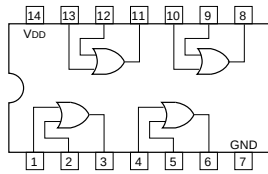
$$A \rightarrow \text{Inverter} \rightarrow Y = \bar{A}$$

A	Y
0	1
1	0

0 : LOW LEVEL
1 : HIGH LEVEL

74AC32SJ (NS)FLAT PACKAGE
74AC32SJX
74VHC32SJX
SN74HC32ANS (TI)FLAT PACKAGE
SN74HC32ANS-E05
TC74VHC32F (TOSHIBA)FLAT PACKAGE
TC74VHC32F(EL)

C-MOS QUAD 2-INPUT OR GATES
—TOP VIEW—



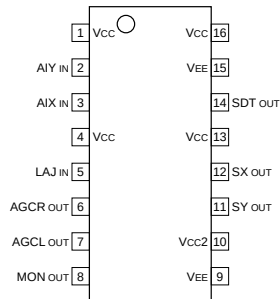
$$A, B \rightarrow \text{OR Gate} \rightarrow Y = A + B = \overline{\bar{A} \cdot \bar{B}}$$

A	B	Y
0	0	0
0	1	1
1	0	1
1	1	1

0 : LOW LEVEL
1 : HIGH LEVEL

CXB1340N (SONY)FLAT PACKAGE

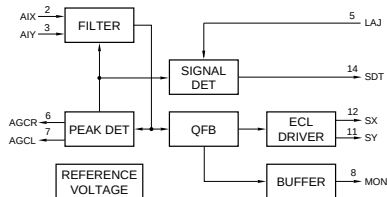
EQUALIZER
—TOP VIEW—



INPUT
AIX : SERIAL X
AIY : SERIAL Y
LAJ : INPUT SIGNAL DETECT LEVEL ADJUST

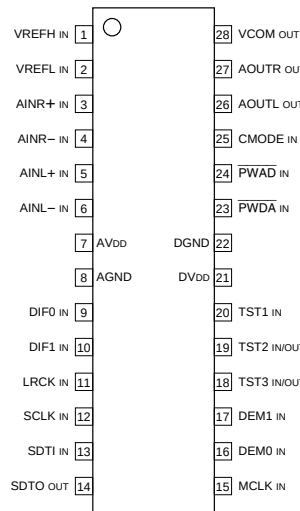
OUTPUT
AGCL : DETECTOR LEVEL
AGCR : DETECTOR REFERENCE LEVEL
MON : EQUALIZED SIGNAL
SDT : INPUT SIGNAL DETECT
SX : SERIAL X
SY : SERIAL Y

OTHER
Vcc2 : FOR SERIAL OUTPUT



AK4520A-VF-E2 (ASAHI)FLAT PACKAGE

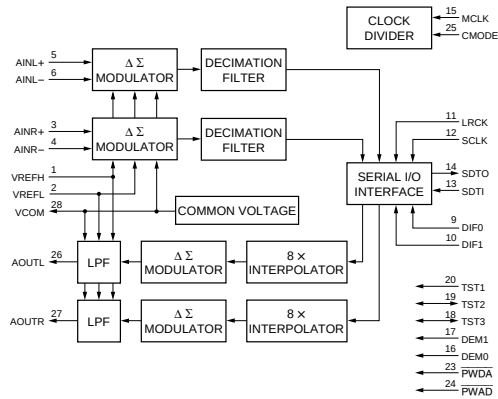
C-MOS STEREO A/D, D/A CONVERTER
—TOP VIEW—



INPUT
AINL+ : CHANNEL L ANALOG POSITIVE INPUT
AINL- : CHANNEL L ANALOG NEGATIVE INPUT
AINR+ : CHANNEL R ANALOG POSITIVE INPUT
AINR- : CHANNEL R ANALOG NEGATIVE INPUT
DIF0, DIF1 : DE-EMPHASIS FREQUENCY SELECT
LRCK : INPUT/OUTPUT CHANNEL CLOCK
MCLK : MASTER CLOCK
PWAD : ADC POWER DOWN MODE
PWDA : DAC POWER DOWN MODE
SCLK : AUDIO SERIAL DATA CLOCK
SDTI : AUDIO SERIAL DATA
TEST1 : TEST
VREFH : POSITIVE VOLTAGE REFERENCE
VREFL : NEGATIVE VOLTAGE REFERENCE

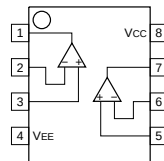
OUTPUT
AOUTL : CHANNEL L ANALOG OUTPUT
AOUTR : CHANNEL R ANALOG OUTPUT
SDTO : SERIAL DATA

INPUT/OUTPUT
TEST2, TEST3 : TEST



BA4560F (ROHM)FLAT PACKAGE
BA4560F-T2
NJM2068M-D-TE2 (JRC)
NJM4556AM-TE2 (JRC)FLAT PACKAGE
NJM5532M (JRC)FLAT PACKAGE
NJM5532M(TE2)

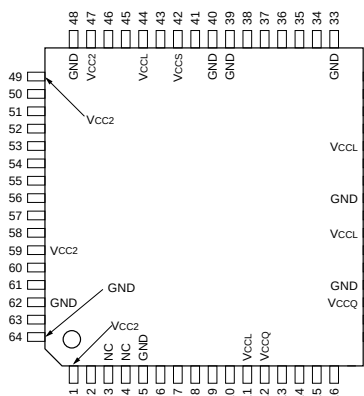
DUAL OPERATIONAL AMPLIFIERS
(DUAL-SUPPLY TYPE)
—TOP VIEW—



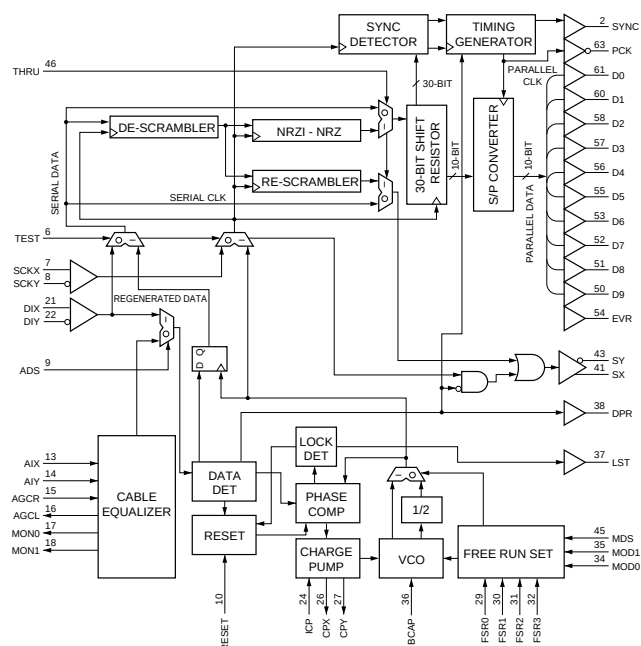
CXB1342R (SONY)

SERIAL DIGITAL INTERFACE TRANSMISSION DECODER

—TOP VIEW—



PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	—	Vcc2	17	O	MON0	33	—	GND	49	—	Vcc2
2	O	SYNC	18	O	MON1	34	I	MOD0	50	O	D9
3	—	NC	19	—	Vccq	35	I	MOD1	51	O	D8
4	—	NC	20	—	GND	36	I	BCAP	52	O	D7
5	—	GND	21	I	DIX	37	O	LST	53	O	D6
6	I	TEST	22	I	DIY	38	O	DPR	54	O	EVR
7	I	SCKX	23	—	VccL	39	—	GND	55	O	D5
8	I	SCKY	24	I	ICP	40	—	GND	56	O	D4
9	I	ADS	25	—	GND	41	O	SX	57	O	D3
10	I	RESET	26	O	CPX	42	—	Vccs	58	O	D2
11	—	VccL	27	O	CPY	43	O	SY	59	—	Vcc2
12	—	Vccq	28	—	VccL	44	—	VccL	60	O	D1
13	I	AIX	29	I	FSR0	45	I	MDS	61	O	D0
14	I	AIY	30	I	FSR1	46	I	THR	62	—	GND
15	I	AGCR	31	I	FSR2	47	—	Vcc2	63	O	PCK
16	O	AGCL	32	I	FSR3	48	—	GND	64	—	GND



INPUT

ADS : TEST
 AGCR : AGC REFERENCE VOLTAGE
 AIX, AIY : SERIAL DATA
 BCAP : EXTERNAL CAPACITOR FOR VCO
 DIX, DIY : TEST
 FSR0 - FSR3 : EXTERNAL RESISTOR FOR SETTING THE VCO FREE-RUN FREQUENCY
 ICP : CHARGE PUMP CURRENT SETTING
 MDS : TEST
 MOD0, MOD1 : VCO RATE SELECT
 RESET : PLL RESET
 SCKX, SCKY : TEST
 TEST : TEST
 THR : TEST

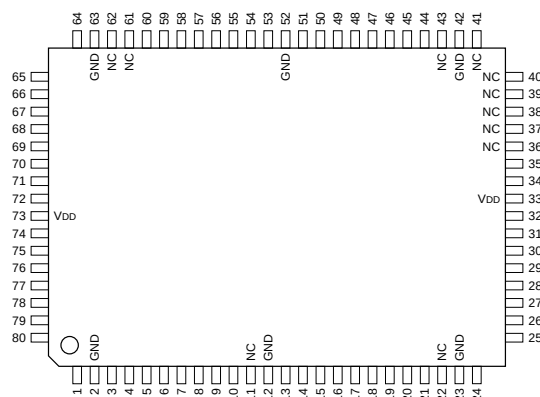
OUTPUT

AGCL : EXTERNAL CAPACITOR FOR PEAK DETECTION
 CPX, CPY : CHARGE PUMP
 D0 - D9 : PARALLEL CLOCK
 DPR : PLL LOCK STATUS
 EVR : PARALLEL CLOCK
 LST : PLL LOCK STATUS
 MON0, MON1 : EQUALIZER MONITOR
 PCK : PARALLEL CLOCK
 SX, SY : EXTERNAL RESISTOR FOR SERIAL DIFFERENTIAL OUTPUT
 SYNC : PLL LOCK STATUS

CXD8913Q (SONY)

C-MOS GATE ARRAY

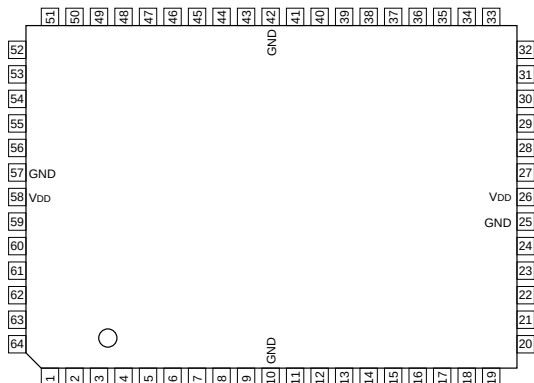
—TOP VIEW—



CXD1095BQ (SONY)

C-MOS I/O PORT EXPANDER

—TOP VIEW—

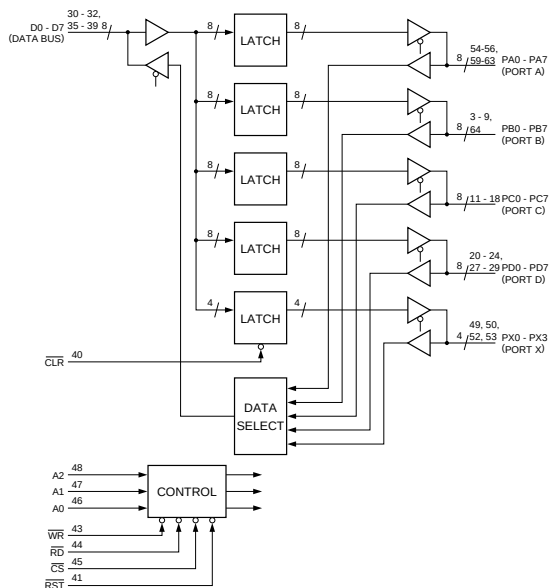


PIN No.	I / O	SIGNAL	PIN No.	I / O	SIGNAL	PIN No.	I / O	SIGNAL	PIN No.	I / O	SIGNAL
1	—	NC	17	I/O	PC6	33	—	NC	49	I/O	PX0
2	—	NC	18	I/O	PC7	34	—	NC	50	I/O	PX1
3	I/O	PB1	19	—	NC	35	I/O	D3	51	—	NC
4	I/O	PB2	20	I/O	PD0	36	I/O	D4	52	I/O	PX2
5	I/O	PB3	21	I/O	PD1	37	I/O	D5	53	I/O	PX3
6	I/O	PB4	22	I/O	PD2	38	I/O	D6	54	I/O	PA0
7	I/O	PB5	23	I/O	PD3	39	I/O	D7	55	I/O	PA1
8	I/O	PB6	24	I/O	PD4	40	I	CLR	56	I/O	PA2
9	I/O	PB7	25	—	GND	41	I	RST	57	—	GND
10	—	GND	26	—	VDD	42	—	GND	58	—	VDD
11	I/O	PC0	27	I/O	PD5	43	I	WR	59	I/O	PA3
12	I/O	PC1	28	I/O	PD6	44	I	RD	60	I/O	PA4
13	I/O	PC2	29	I/O	PD7	45	I	CS	61	I/O	PA5
14	I/O	PC3	30	I/O	D0	46	I	A0	62	I/O	PA6
15	I/O	PC4	31	I/O	D1	47	I	A1	63	I/O	PA7
16	I/O	PC5	32	I/O	D2	48	I	A2	64	I/O	PB0

CS	RD	WR	A2	A1	A0	MODE
0	0	1	0	0	0	PORT A → DATA BUS
0	0	1	0	0	1	PORT B → DATA BUS
0	0	1	0	1	0	PORT C → DATA BUS
0	0	1	0	1	1	PORT D → DATA BUS
0	0	1	1	0	0	PORT X → DATA BUS
0	0	1	1	0	1	—
0	0	1	1	1	0	—
0	0	1	1	1	1	—
0	1	0	0	0	0	DATA BUS → PORT A
0	1	0	0	0	1	DATA BUS → PORT B
0	1	0	0	1	0	DATA BUS → PORT C
0	1	0	0	1	1	DATA BUS → PORT D
0	1	0	1	0	0	DATA BUS → PORT X
0	1	0	1	0	1	—
0	1	0	1	1	0	DATA BUS → CTL REG. 1
0	1	0	1	1	1	DATA BUS → CTL REG. 2
1	X	X	X	X	X	DATA BUS: HI-Z

0	; LOW LEVEL
1	; HIGH LEVEL
X	; DON'T CARE
HI-Z	; HIGH IMPEDANCE

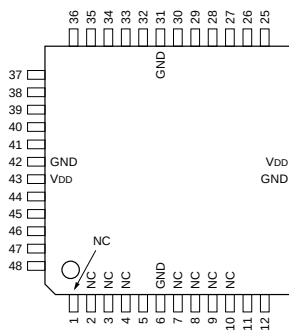
D0 - D7	; DATA BUS INPUTS/OUTPUTS
CS	; CHIP SELECT INPUT
RD	; READ STROBE INPUT
WR	; WRITE STROBE INPUT
A0 - A2	; ADDRESS INPUT
RST	; RESET INPUT
CLR	; CLEAR INPUT
PA0 - PA7	; PORT A INPUTS/OUTPUTS
PB0 - PB7	; PORT B INPUTS/OUTPUTS
PC0 - PC7	; PORT C INPUTS/OUTPUTS
PD0 - PD7	; PORT D INPUTS/OUTPUTS
PX0 - PX3	; PORT X INPUTS/OUTPUTS



CXD8914Q (SONY)

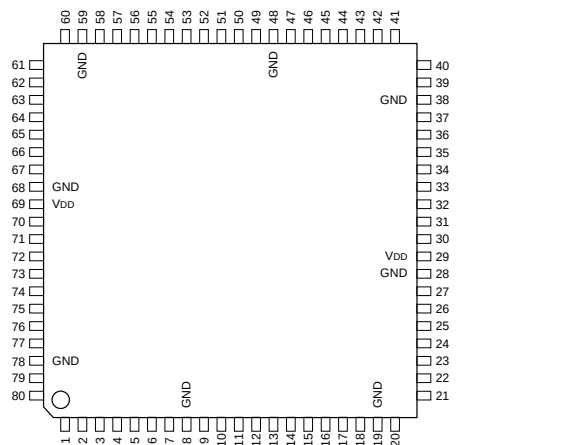
C-MOS 2 CH PARALLEL TO SERIAL CONVERTER

—TOP VIEW—



PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	—	NC	13	O	CLK1	25	I	D2	37	I	D13
2	—	NC	14	I	RESET	26	I	D3	38	I	D14
3	—	NC	15	I	A1	27	I	D4	39	I	D15
4	—	NC	16	I	A0	28	I	D5	40	O	EMPTY0
5	I	CLK	17	I	WORD	29	I	D6	41	O	FULL0
6	—	GND	18	—	GND	30	I	D7	42	—	GND
7	—	NC	19	—	VDD	31	—	GND	43	—	VDD
8	—	NC	20	I	CS	32	I	D8	44	O	EMPTY1
9	—	NC	21	I	WR	33	I	D9	45	O	FULL1
10	—	NC	22	I	RD	34	I	D10	46	O	DATA0
11	O	DATA1	23	I/O	D0	35	I	D11	47	O	LAT0
12	O	LAT1	24	I	D1	36	I	D12	48	O	CLK0

—TOP VIEW—



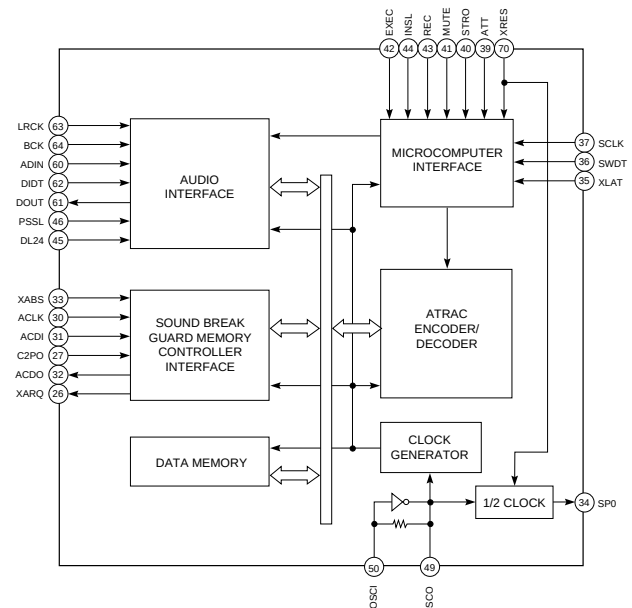
PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	I	TA9	21	I	TS3	41	I	MUTE	61	O	DOUT
2	I	TA10	22	I	TD12	42	I	EXEC	62	I	DI/DI
3	I	TA11	23	I	TD13	43	I	REC	63	I	LRCK
4	I	TD0	24	I	TD14	44	I	INSL	64	I	BCK
5	I	TD1	25	I	TD15	45	I	DL24	65	I	SICK
6	I	TD2	26	O	XARQ	46	I	PSSL	66	I	IDSI
7	I	TD3	27	O	CZPO	47	I	EXIR	67	I	XILT
8	—	GND	28	—	GND	48	—	GND	68	—	GND
9	I	TD4	29	—	VDD	49	O	OSCO	69	—	VDD
10	I	TD5	30	I	ACLK	50	I	OSCI	70	I	XRES
11	I	TD6	31	I	ACDI	51	I	TD16	71	I	TA0
12	I	TD7	32	O	ACDO	52	I	TD17	72	I	TA1
13	I	TD8	33	I	XABS	53	I	TD18	73	I	TA2
14	I	TD9	34	O	SPO	54	I	TD19	74	I	TA3
15	I	TD10	35	I	XLAT	55	I	TD20	75	I	TA4
16	I	TD11	36	I	SWDT	56	I	TD21	76	I	TA5
17	I	TS0	37	I	SCLK	57	I	TD22	77	I	TA6
18	I	TS1	38	—	GND	58	I	TD23	78	—	GND
19	—	GND	39	I	ATT	59	—	GND	79	I	TA7
20	I	TS2	40	I	STRO	60	I	ADIN	80	I	TA8

INPUT

ACDI	:	DATA INPUT (FROM CXD2526)
ACKL	:	SERIAL TRANSMISSION CLOCK (128 fs) (FROM CXD2526)
ADIN	:	ANALOG RECORD
ATT	:	ATTENUATION SETTING (H : -12 dB ATTENUATE)
BCK	:	2.8224 MHz (64 fs)
C2PO	:	ERRO STATUS (FROM CXD2526)
DIDT	:	DIGITAL RECORD
DL24	:	DATA WORD LENGHT SELECT (H : 24-BIT, L : 16-BIT)
EXEC	:	START/STOP SETTING (H : START)
ENIR	:	TEST (NORMAL = GND CONNECT)
IDSI	:	TEST (NORMAL = V _{DD} CONNECT)
INSL	:	RECORD INPUT SELECT (H : DIDT, L : ADIN)
LRCK	:	44.1 KHz (fs)
MUTE	:	MUTE SETTING (H : MUTE ON)
OSCI	:	CRYSTAL OSCILLATOR
PSSL	:	PREVIOUS PRESS/SUCCESSOR PRESS SELECT (H : SUCCESSOR PRESS)
REC	:	RECORD/PLAYBACK SETTING (H : RECORD)
SCLL	:	SERIAL MICROCOMPUTER INTERFACE TRANSMISSION CLOCK
SICK	:	TEST (NORMAL = V _{DD} CONNECT)
STRO	:	STEREO/MONAUURAL SETTING (H : MONAUURAL)
SWDT	:	SERIAL MICROCOMPUTER INTARFACE DATA
TA0 - TA11	:	TEST (NORMAL = GND CONNECT)
TD0 - TD23	:	TEST (NORMAL = GND CONNECT)
TS0 - TS3	:	TEST (NORMAL = GND CONNECT)
XABS	:	SERIAL TRANSMISSION SYNC PULSE (FROM CXD2526)
XILT	:	TEST (NORMAL = V _{DD} CONNECT)
XLAT	:	SERIAL MICROCOMPUTER INTERFACE LATCH PULSE
XRES	:	RESET

OUTPUT

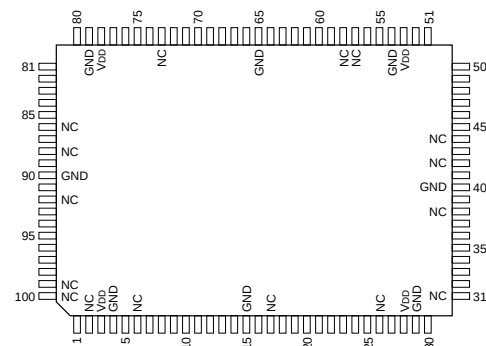
ACDO	: DATA OUTPUT (TO CXD2526)
DOUT	: MONITOR/DECODE AUDIO DATA
OSCO	: CRYSTAL OSCILLATOR
SPO	: 1/2 CLOCK (512 fs)
XARQ	: DATA TRANSMISSION REQUEST (TO CXD2526)



CXD8942Q (SONY)

C-MOS ATRAC DECODER CONTROL (CXD8922Q) SUB IC

—TOP VIEW—

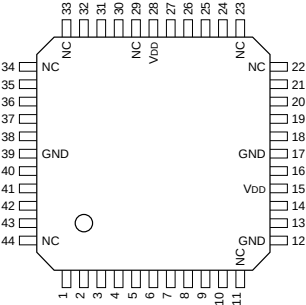


PIN	I/O	SIGNAL	PIN	I/O	SIGNAL	PIN	I/O	SIGNAL	PIN	I/O	SIGNAL	PIN	I/O	SIGNAL
1	O	SWDTOS	21	O	ODTOP	41	I	RESET	61	O	ZRDTEP3	81	I	DATAS5
2	—	NC	22	O	ROWOP0	42	—	NC	62	O	ZRDTEP2	82	I	DATAS6
3	—	Vdd	23	O	ROWOP1	43	I	XABSA4	63	O	ZRDTEP1	83	I	DATAS7
4	—	GND	24	O	ROWOP2	44	—	NC	64	O	ZRDTEP0	84	I	RCKS
5	O	AND34S	25	I	OEP	45	I	RENP	65	—	GND	85	I	RENS
6	—	NC	26	—	NC	46	I	RCKP	66	O	ZRDTSO5	86	—	NC
7	I	OES	27	O	AND34P	47	I	DATAP7	67	O	ZRDTS1	87	I	XABSA5
8	I	ROWIS0	28	—	Vdd	48	I	DATAP6	68	O	ZRDTS2	88	—	NC
9	I	ROWIS1	29	—	GND	49	I	DATAP5	69	O	ZRDTS3	89	I	FS256
10	I	ROWIS2	30	O	SWDTP0	50	I	DATAP4	70	O	ZRDTS4	90	—	GND
11	O	ODTOS	31	—	NC	51	I	DATAP3	71	O	ZRDTS5	91	O	LRSEL5
12	O	ROWOS0	32	I	XLATP4	52	I	DATAP2	72	I	TEST	92	—	NC
13	O	ROWOS1	33	I	XLATP3	53	—	Vdd	73	—	NC	93	I	SCKS
14	O	ROWOS2	34	I	XLATP2	54	—	GND	74	I	DATAS0	94	I	XLATS0
15	—	GND	35	I	XLATP1	55	I	DATAP1	75	I	DATAS1	95	I	XLATS1
16	I	TASTRT	36	I	XLATP0	56	I	DATAP0	76	I	DATAS2	96	I	XLATS2
17	—	NC	37	I	SKCP	57	—	NC	77	I	DATAS3	97	I	XLATS3
18	I	ROWIP0	38	—	NC	58	—	NC	78	—	Vdd	98	I	XLATS4
19	I	ROWIP1	39	O	LRSELP	59	O	ZRDTP5	79	—	GND	99	—	NC
20	I	ROWIP2	40	—	GND	60	O	ZRDTEP4	80	I	DATAS4	100	—	NC

CXD8517Q (OKI)FLAT PACKAGE

C-MOS SAMPLING FREQUENCY CONVERTER FOR DIGITAL AUDIO

—TOP VIEW—



PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	I	DATAI	12	—	GND	23	—	NC	34	—	NC
2	—	LRCKI	13	I	XI	24	I	TEST1	35	I	MUTE
3	I	BCKI	14	I/O	XO	25	I	TEST2	36	I	DEMP
4	I	MI0	15	—	VDD	26	I	TEST3	37	I	FS1
5	I	MI1	16	O	XO2	27	O	STA	38	I	FS2
6	—	VDD	17	—	GND	28	—	VDD	39	—	GND
7	I	F128	18	I	PASS	29	—	NC	40	I	XLAT
8	I	MO0	19	I	FIS0	30	O	DATAO	41	I	SCK
9	I	MO1	20	I	FIS1	31	I/O	BCKO	42	I	SWDT
10	I	INIT	21	O	TEST	32	I/O	LRCKO	43	I	SLAVE
11	—	NC	22	—	NC	33	—	NC	44	—	NC

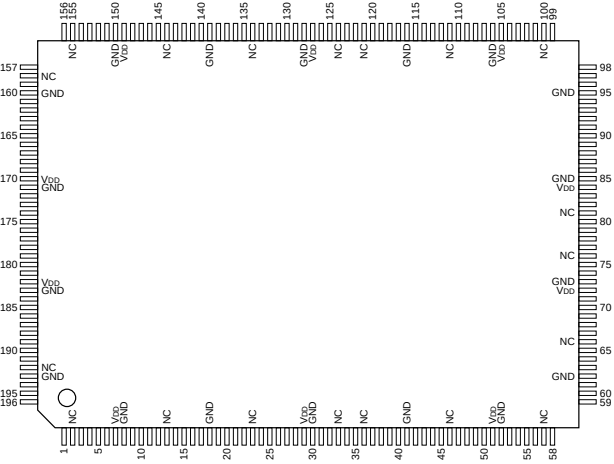
- INPUT**
BCKI : BIT CLOCK FOR INPUT SERIAL DATA
DATAI : 1FS SERIAL DATA
DEMP : DE-EMPHASIS SETTING
F128 : REFERENCE FS CLOCK INPUT DATA SYSTEM
FIS0, FIS1 : F128 CLOCK FREQUENCY DIVISION SETTING
FS1, FS2 : FSO SETTING (FOR DE-EMPHASIS OUTPUT)
INIT : INITIALIZE
LRCKI : 1FS WORD CLOCK FOR INPUT SERIAL DATA
MI0, MI1 : FORMAT SELECT FOR INPUT SERIAL DATA
MO0, MO1 : FORMAT SELECT FOR OUTPUT SERIAL DATA
MUTE : DATA OUTPUT MUTING
PASS : THROUGH OUTPUT MODE SELECT
SCK : CLOCK FOR ATTENUATION MODE SETTING
SLAVE : SYNC MODE SETTING
SWDT : DATA FOR ATTENUATION MODE SETTING
TEST1 - TEST3 : TEST
XI : CRYSTAL OSCILLATOR (512 FSO MASTER CLOCK)
XLAT : DATA LATCH PULSE FOR ATTENUATION MODE SETTING
- OUTPUT**
DATAO : SERIAL DATA (FSO)
STA : FS CONVERTING STATUS MONITOR
TEST : TEST
XO2 : 1/2 MASTER CLOCK (256 FSO)

- INPUT/OUTPUT**
BCKO : BIT CLOCK FOR OUTPUT SERIAL DATA
LRCKO : FSO WORD CLOCK FOR OUTPUT SERIAL DATA
XO : CRYSTAL OSCILLATOR

CXD8919Q (SONY)

C-MOS RF INTERFACE

—TOP VIEW—

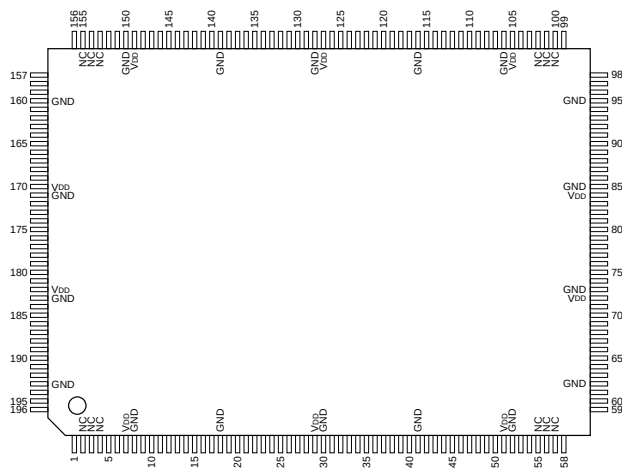


PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	O	OEPX	50	I/O	APY11	99	I/O	ASY6	148	I/O	DSX4
2	—	NC	51	—	VDD	100	—	NC	149	—	VDD
3	I/O	DPX8	52	—	GND	101	I/O	ASY7	150	—	GND
4	I/O	DPX7	53	I/O	APY10	102	I/O	ASY8	151	I/O	DSX5
5	I/O	DPX6	54	I/O	APY9	103	I/O	ASY9	152	I/O	DSX6
6	I/O	DPX5	55	I/O	APY8	104	I/O	ASY10	153	I/O	DSX7
7	—	VDD	56	I/O	APY7	105	—	VDD	154	I/O	DSX8
8	—	GND	57	—	NC	106	—	GND	155	—	NC
9	I/O	DPX4	58	I/O	APY6	107	I/O	ASY11	156	O	OESX
10	I/O	DPX3	59	I/O	APY5	108	I/O	ASY12	157	O	WESX
11	I/O	DPX2	60	I/O	APY4	109	I/O	ASY13	158	—	NC
12	I/O	DPX1	61	I/O	APY3	110	I/O	ASY14	159	I	RESET
13	—	NC	62	—	GND	111	—	NC	160	—	GND
14	O	APX14	63	I/O	APY2	112	I/O	DSY1	161	O	RESTART
15	O	APX13	64	I/O	APY1	113	I/O	DSY2	162	O	REEND
16	O	APX12	65	I/O	APY0	114	I/O	DSY3	163	O	REVALID
17	O	APX11	66	—	NC	115	I/O	DSY4	164	I	TBANKI
18	—	GND	67	O	TRCKPO	116	—	GND	165	I/O	TECCO
19	O	APX10	68	I	TRCKPI	117	I/O	DSY5	166	O	REDATA7
20	O	APX9	69	I	LOCKP	118	I/O	DSY6	167	O	REDATA6
21	O	APX8	70	I	VSYNCP	119	I/O	DSY7	168	O	REDATA5
22	O	APX7	71	I	HSYNCP	120	I/O	DSY8	169	O	REDATA4
23	—	NC	72	—	VDD	121	—	NC	170	—	VDD
24	O	APX6	73	—	GND	122	O	OESY	171	—	GND
25	O	APX5	74	I	RFCKP	123	O	WESY	172	O	REDATA3
26	O	APX4	75	I	DATAP	124	—	NC	173	O	REDATA2
27	O	APX3	76	—	NC	125	O	ASX0	174	O	REDATA1
28	O	APX2	77	I	TEST3	126	O	ASX1	175	O	REDATA0
29	—	VDD	78	I	TEST2	127	—	VDD	176	O	VSYNCL
30	—	GND	79	I	TEST1	128	—	GND	177	O	ECC0
31	O	APX1	80	I	TEST0	129	O	ASX2	178	O	ECC1
32	O	APX0	81	—	NC	130	O	ASX3	179	O	VALID1
33	—	NC	82	I	DATAS	131	O	ASX4	180	O	SHLFINT
34	O	WEPY	83	I	RFCKS	132	O	ASX5	181	O	PHLFINT
35	O	OEPY	84	—	VDD	133	O	ASX6	182	—	VDD
36	—	NC	85	—	GND	134	—	NC	183	—	GND
37	I/O	DPY8	86	I	HSYNCS	135	O	ASX7	184	O	ECC2
38	I/O	DPY7	87	I	VSYNCS	136	O	ASX8	185	O	VSYNCL
39	I/O	DPY6	88	I	LOCKS	137	O	ASX9	186	O	VALID2
40	I/O	DPY5	89	I	TRCKSI	138	O	ASX10	187	O	RCHGINT
41	—	GND	90	O	TRRKS0	139	—	GND	188	I	DLV5
42	I/O	DPY4	91	I	LOCKFLG	140	O	ASX11	189	I	DLV4
43	I/O	DPY3	92	I/O	ASY0	141	O	ASX12	190	I	DLV3
44	I/O	DPY2	93	I/O	ASY1	142	O	ASX13	191	I	DLV2
45	I/O	DPY1	94	I/O	ASY2	143	O	ASX14	192	—	NC
46	—	NC	95	—	GND	144	—	NC	193	—	GND
47	I/O	APY14	96	I/O	ASY3	145	I/O	DSX1	194	I	DLV1
48	I/O	APY13	97	I/O	ASY4	146	I/O	DSX2	195	I	DLV0
49	I/O	APY12	98	I/O	ASY5	147	I/O	DSX3	196	O	WEPX

CXD8920Q (SONY)

C-MOS ECC CONTROL

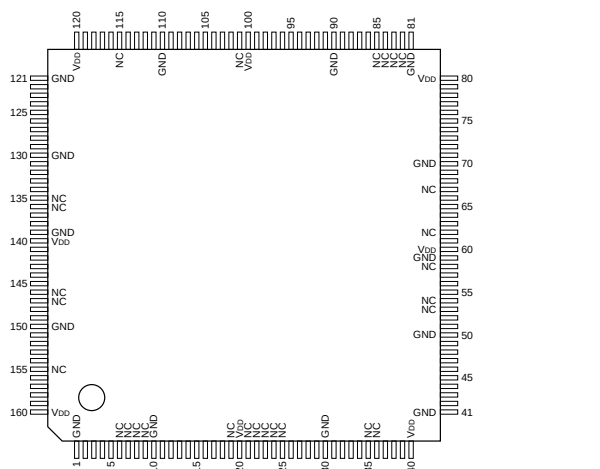
—TOP VIEW—



CXD8921Q (SONY)

C-MOS TIME BASE CORRECTOR

—TOP VIEW—



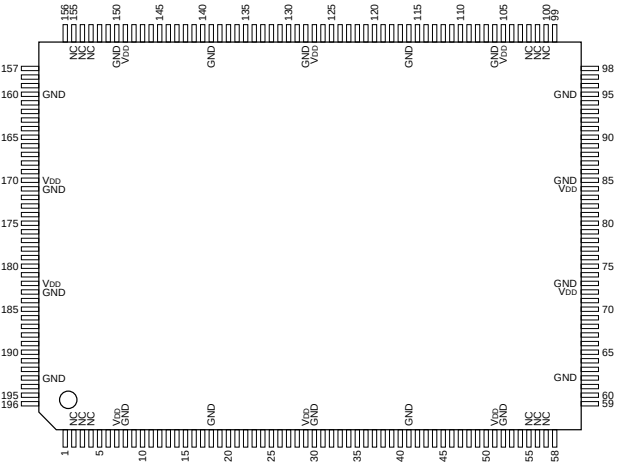
PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	I	SCRAMON	50	I/O	BDAT4	99	O	TESTO3	148	I	IORIG6
2	—	NC	51	—	VDD	100	—	NC	149	—	VDD
3	—	NC	52	—	GND	101	—	NC	150	—	GND
4	O	NC	53	I/O	BDAT3	102	—	NC	151	I	IORIG5
5	O	AOE	54	I/O	BDAT2	103	O	TESTO2	152	I	IORIG4
6	O	AWE	55	—	NC	104	O	TESTO1	153	—	NC
7	—	VDD	56	—	NC	105	—	VDD	154	—	NC
8	—	GND	57	—	NC	106	—	GND	155	—	NC
9	O	AADR11	58	I	CADR2	107	O	X3	156	I	IORIG3
10	O	AADR10	59	I	CADR1	108	O	X2	157	I	IORIG2
11	O	AADR9	60	I/O	BDAT1	109	O	X1	158	I	IORIG1
12	O	AADR8	61	I/O	BDAT0	110	I	ERRINS	159	I	IORIG0
13	I	SCRIDFIX	62	—	GND	111	I	TESTI2	160	—	GND
14	O	AADR7	63	O	BWE	112	O	P4	161	I	CK
15	O	AADR6	64	O	BOE	113	O	P5	162	I	CODEERR
16	O	AADR5	65	O	BADR13	114	O	P2	163	I	CORRECT
17	O	AADR4	66	O	BADR12	115	O	P3	164	I	RESTART
18	—	GND	67	I	CADR0	116	—	GND	165	I	TESTI1
19	O	AADR3	68	O	BADR11	117	O	P1	166	I	REVALID
20	O	AADR2	69	O	BADR10	118	O	P0	167	I	REDATA7
21	O	AADR1	70	O	BADR9	119	O	X5	168	I	REDATA6
22	O	AADR0	71	O	BADR8	120	O	X4	169	I	ECCINT
23	I	CADR7	72	—	VDD	121	O	TESTO0	170	—	VDD
24	I	CADR6	73	—	GND	122	I	ICDEND	171	—	GND
25	I/O	ADAT7	74	O	BADR7	123	O	OSTART	172	I	RST
26	I/O	ADAT6	75	O	BADR6	124	O	OCDEND	173	I	REDATA5
27	I/O	ADAT5	76	O	BADR5	125	O	OCYCEND	174	I	REDATA4
28	I/O	ADAT4	77	O	BADR4	126	O	OERROR	175	I	REDATA3
29	—	VDD	78	I	TEST	127	—	VDD	176	I	REDATA2
30	—	GND	79	I	TEST4	128	—	GND	177	I	REDATA1
31	I/O	ADAT3	80	O	BADR3	129	O	ODATA7	178	I	REDATA0
32	I/O	ADAT2	81	O	BADR2	130	O	ODATA6	179	I	CRD
33	I/O	ADAT1	82	O	BADR1	131	O	ODATA5	180	I	CWR
34	I/O	ADAT0	83	O	BADR0	132	O	ODATA4	181	I	TESTI0
35	I	CADR5	84	—	VDD	133	I	ISTART	182	—	VDD
36	I	CADR4	85	—	GND	134	I	IDATA7	183	—	GND
37	I/O	ADATE3	86	O	ETSTART	135	O	ODATA3	184	I/O	CDATA7
38	I/O	ADATE2	87	O	ETEN	136	O	ODATA2	185	I/O	CDATA6
39	I/O	ADATE1	88	O	ETDATA7	137	O	ODATA1	186	I/O	CDATA5
40	I/O	ADATE0	89	O	ETDATA6	138	O	ODATA0	187	I/O	CDATA4
41	—	GND	90	I	TESTI3	139	—	GND	188	I	CS
42	I/O	BDATE3	91	O	ETDATA5	140	I	IDATA6	189	I/O	CDATA3
43	I/O	BDATE2	92	I	ETDATA4	141	I	IDATA5	190	I/O	CDATA2
44	I/O	BDATE1	93	O	ETDATA3	142	I	IDATA4	191	I/O	CDATA1
45	I/O	BDATE0	94	O	ETDATA2	143	I	IDATA3	192	I/O	CDATA0
46	I	CADR3	95	—	GND	144	I	IDATA2	193	—	GND
47	I/O	BDAT7	96	O	ETDATA1	145	I	IDATA1	194	O	AADR13
48	I/O	BDAT6	97	O	ETDATA0	146	I	IDATA0	195	O	AADR12
49	I/O	BDAT5	98	O	SCRSTART	147	I	IORIG7	196	I	FIXMODE

PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	—	GND	41	—	GND	81	—	GND	121	—	GND
2	I/O	CDAT3	42	O	FSWCK	82	—	NC	122	O	RADD13
3	I/O	CDAT2	43	O	FRSTW	83	—	NC	123	O	RADD14
4	I/O	CDAT1	44	O	FWE	84	—	NC	124	O	RADD15
5	I/O	CDAT0	45	O	WRP0	85	—	NC	125	O	RADD16
6	—	NC	46	O	WRP1	86	O	TADAT0	126	I/O	RDAT0
7	—	NC	47	O	WRP2	87	O	TADAT1	127	I/O	RDAT1
8	—	NC	48	O	WRP3	88	O	TADAT2	128	I/O	RDAT2
9	—	NC	49	O	WRP4	89	O	TADAT3	129	I/O	RDAT3
10	—	GND	50	—	GND	90	—	GND	130	—	GND
11	O	TSTP0	51	I	EASTR	91	O	TADAT4	131	I/O	RDAT4
12	O	TSTP1	52	I	EAEN	92	O	TADAT5	132	I/O	RDAT5
13	O	TSTP2	53	—	NC	93	O	TADAT6	133	I/O	RDAT6
14	O	TSTP3	54	—	NC	94	O	TADAT7	134	I/O	RDAT7
15	O	TSTP4	55	I	VALID2	95	O	TAENP3	135	—	NC
16	O	TSTP5	56	I	ECC2	96	O	TAENS3	136	—	NC
17	O	TSTP6	57	I	VSYNC2	97	O	TAENS2	137	O	ROE
18	O	TSTP7	58	—	NC	98	O	TAENS	138	O	RWE
19	—	NC	59	—	GND	99	O	TASTRS	139	—	GND
20	—	VDD	60	—	VDD	100	—	VDD	140	—	VDD
21	—	NC	61	I	WCK	101	—	NC	141	I	CRD
22	—	NC	62	—	NC	102	O	TSWCK	142	I	CWR
23	—	NC	63	I	TST3	103	O	TAENP1	143	I	CS
24	—	NC	64	I	TST2	104	O	TAENP2	144	O	CRCS
25	—	NC	65	I	TST1	105	O	RADD0	145	O	CRCP
26	I	FDATA7	66	I	TST0	106	O	RADD1	146	—	NC
27	I	FDATA6	67	—	NC	107	O	RADD2	147	—	NC
28	I	FDATA5	68	I	PLLOCK	108	O	RADD3	148	I	CADD5
29	I	FDATA4	69	I	FS	109	O	RADD4	149	I	CADD4
30	—	GND	70	—	GND	110	—	GND	150	—	GND
31	I	FDATA3	71	I	RCK	111	O	RADD5	151	I	CADD3
32	I	FDATA2	72	I	PLLINH	112	O	RADD6	152	I	CADD2
33	I	FDATA1	73	O	ATRINT0	113	O	RADD7	153	I	CADD1
34	I	FDATA0	74	O	RDP0	114	O	RADD8	154	I	CADD0
35	—	NC	75	O	RDP1	115	—	NC	155	—	NC
36	—	NC	76	O	RDP2	116	O	RADD9	156	I/O	CDAT7
37	O	FRE	77	O	RDP3	117	O	RADD10	157	I/O	CDAT6
38	O	FRSTR	78	O	RDP4	118	O	RADD11	158	I/O	CDAT5
39	O	FSRCK	79	I	RST	119	O	RADD12	159	I/O	CDAT4
40	—	VDD	80	—	VDD	120	—	VDD	160	—	VDD

CXD8922Q (SONY)

C-MOS ATRAC DECODER CONTROL

—TOP VIEW—



PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	I	IACDT0	50	I	IARQ4	99	I	ICP	148	I	IOE
2	—	NC	51	—	VDD	100	—	NC	149	—	VDD
3	—	NC	52	—	GND	101	—	NC	150	—	GND
4	—	NC	53	O	OACLK	102	—	NC	151	I	IRST
5	O	OEXEC0	54	O	OSCLK	103	I/O	BCD0	152	I	IADL0
6	O	OXLAT0	55	—	NC	104	I/O	BCD1	153	—	NC
7	—	VDD	56	—	NC	105	—	VDD	154	—	NC
8	—	GND	57	—	NC	106	—	GND	155	—	NC
9	O	OXABS0	58	O	OSWDT	107	I/O	BCD2	156	I	IADL1
10	O	OACDT0	59	I	ITHRU	108	I/O	BCD3	157	I	IADL2
11	I	IARQ0	60	O	OWEB	109	I/O	BCD4	158	I	IADL3
12	I	IACDT1	61	I	IFS	110	I/O	BCD5	159	I	ITEST0
13	O	OEXEC1	62	—	GND	111	I/O	BCD6	160	—	GND
14	O	OXLAT1	63	I	IBCK	112	I/O	BCD7	161	I	ICK
15	O	OXABS1	64	I/O	BMDB0	113	I	ICAD0	162	I	IEXE3
16	O	OACDT1	65	I/O	BMDB1	114	I	ICAD1	163	I	IEXE2
17	I	IARQ1	66	I/O	BMDB2	115	I	ICAD2	164	I	IEXE1
18	—	GND	67	I/O	BMDB3	116	—	GND	165	I	IEXE0
19	I	IACDT2	68	I/O	BMDB4	117	I	ICAD3	166	O	OMAA11
20	O	OEXEC2	69	I/O	BMDB5	118	I	ICAD4	167	O	OMAA10
21	O	OXLAT2	70	I/O	BMDB6	119	I	ICAD5	168	O	OMAA9
22	O	OXABS2	71	I/O	BMDB7	120	I	IEDL0	169	O	OMAA8
23	O	OACDT2	72	—	VDD	121	I	IEDL1	170	—	VDD
24	O	IARQ2	73	—	GND	122	I	IEDL2	171	—	GND
25	O	OAINT	74	O	OQEB	123	I	IEDL3	172	O	OMAA7
26	O	OERR	75	O	OMAB0	124	I	IEDL4	173	O	OMAA6
27	O	ODATA0	76	O	OMAB1	125	I	IDLSEL	174	O	OMAA5
28	O	ODATA1	77	O	OMAB2	126	I	ISTR1	175	O	OMAA4
29	—	VDD	78	O	OMAB3	127	—	VDD	176	I	ITEST1
30	—	GND	79	I	ITEST2	128	—	GND	177	O	OMAA3
31	O	ODATA2	80	O	OMAB4	129	I	IDATA0	178	O	OMAA2
32	O	ODATA3	81	O	OMAB5	130	I	IDATA1	179	O	OMAA1
33	O	OLVL0	82	O	OMAB6	131	I	IDATA2	180	O	OMAA0
34	O	OLVL1	83	O	OMAB7	132	I	IDATA3	181	O	OQEA
35	O	OLVL2	84	—	VDD	133	I	IDATA4	182	—	VDD
36	I	IHOLD	85	—	GND	134	I	IDATA5	183	—	GND
37	I	ICSEL	86	O	OMAB8	135	I	IDATA6	184	I/O	BMDA7
38	I	IACDT3	87	O	OMAB9	136	I	IDATA7	185	I/O	BMDA6
39	O	OEXEC3	88	O	OMAB10	137	O	ORE1	186	I/O	BMDA5
40	O	OXLAT3	89	O	OMAB11	138	O	ORE0	187	I/O	BMDA4
41	—	GND	90	O	OTEST0	139	—	GND	188	I	ITEST3
42	O	OXABS3	91	O	OTEST1	140	O	ORCK	189	I/O	BMDA3
43	O	OACDT3	92	O	OMAB12	141	O	OFRST0	190	I/O	BMDA2
44	I	IARQ3	93	O	OMAB13	142	O	OFRST1	191	I/O	BMDA1
45	I	IACDT4	94	O	OMAB14	143	O	OFRST2	192	I/O	BMDA0
46	O	OEXEC4	95	—	GND	144	I	IFOSEL	193	—	GND
47	O	OXLAT4	96	I	ICWR	145	I	IEXMD	194	O	OWEA
48	O	OXABS4	97	I	ICRD	146	I	IEXCP	195	O	OXRES
49	O	OACDT4	98	I	ICCS	147	I	ILVSEL	196	O	OC2PO

- INPUT
- ACDT0

: CXD2531BR A-CHANNEL DATA
- ACDT1

: CXD2531BR B-CHANNEL DATA
- ACDT2

: CXD2531BR C-CHANNEL DATA
- ACDT3

: CXD2531BR D-CHANNEL DATA
- ACDT4

: CXD2531BR E-CHANNEL DATA
- ADL0 - ADL3

: FIFO DELAY CONTROL
- ARQ0

: CXD2531BR A-CHANNEL DATA REQUEST
- ARQ1

: CXD2531BR B-CHANNEL DATA REQUEST
- ARQ2

: CXD2531BR C-CHANNEL DATA REQUEST
- ARQ3

: CXD2531BR D-CHANNEL DATA REQUEST
- ARQ4

: CXD2531BR E-CHANNEL DATA REQUEST
- BCK

: 64 FS
- CAD0 - CAD5

: CPU ADDRESS
- CCS

: CPU CHIP ENABLE
- CK

: 256 FS
- CP

: FIFO DELAY SELECT
- CRD

: CPU READ ENABLE
- CWR

: CPU WRITE ENABLE
- CYSEL

: ROTATION SELECT TIMING
- DATA0 - DATA7

: DATA
- DLSEL

: SAMPLE DELAY SELECT
- EDL0 - EDL4

: FIFO DELAY CONTROL
- EXCP

: ROTATION CYCLE MODE2
- EXE0 - EXE3

: EX ROTATION CYCLE
- EXMD

: ROTATION CYCLE MODE1
- FOSEL

: FIFO 2/3 MODE
- FS

: FS (44.1 kHz)
- HOLD

: ATRAC DELAY CONTROL FIX MODE
- LVSEL

: LEVEL CONTROL SELECT
- OE

: DATA0 TO DATA3 OUTPUT ENABLE
- RST

: SYSTEM RESET
- TEST0 - TEST3

: TEST
- THRU

: ATRAC DELAY CONTROL THROUGH (L=THROUGH)

- OUTPUT
- ACDT0

: CXD2531BR A-CHANNEL DATA
- ACDT1

: CXD2531BR B-CHANNEL DATA
- ACDT2

: CXD2531BR C-CHANNEL DATA
- ACDT3

: CXD2531BR D-CHANNEL DATA
- ACDT4

: CXD2531BR E-CHANNEL DATA
- ACLK

: CXD2531BR DATA CLOCK
- AIN1

: ATRAC BLOCK TIMING PULSE
- C2PO

: CXD2531BR ERROR FLAG
- DATA0 - DATA3

: PCM DATA
- ERR

: ERROR FLAG
- EXEC0

: CXD2531BR A-CHANNEL START/STOP (H=START)
- EXEC1

: CXD2531BR B-CHANNEL START/STOP (H=START)
- EXEC2

: CXD2531BR C-CHANNEL START/STOP (H=START)
- EXEC3

: CXD2531BR D-CHANNEL START/STOP (H=START)
- EXEC4

: CXD2531BR E-CHANNEL START/STOP (H=START)
- FRST0 - FRST2

: FIFO RESET PULSE
- LVL0 - LVL2

: MIX LEVEL DATA
- MAA0 - MAA11

: SRAM A ADDRESS
- MAB0 - MAB14

: SRAM B ADDRESS
- OEA

: SRAM A OUTPUT ENABLE
- OEB

: SRAM B OUTPUT ENABLE
- RCK

: FIFO READ CLOCK
- RE0, RE1

: FIFO READ ENABLE
- SCLK

: CXD2531BR SYSTEM INTERFACE CLOCK
- SWDT

: CXD2531BR SYSTEM INTERFACE DATA
- TEST0, TEST1

: TEST
- WEA

: SRAM A WRITE ENABLE
- WEB

: SRAM B WRITE ENABLE
- XABS0

: CXD2531BR A-CHANNEL DATA OUTPUT TIMING PULSE
- XABS1

: CXD2531BR B-CHANNEL DATA OUTPUT TIMING PULSE
- XABS2

: CXD2531BR C-CHANNEL DATA OUTPUT TIMING PULSE
- XABS3

: CXD2531BR D-CHANNEL DATA OUTPUT TIMING PULSE
- XABS4

: CXD2531BR E-CHANNEL DATA OUTPUT TIMING PULSE
- XLAT0

: CXD2531BR A-CHANNEL SYSTEM INTERFACE LATCH PULSE
- XLAT1

: CXD2531BR B-CHANNEL SYSTEM INTERFACE LATCH PULSE
- XLAT2

: CXD2531BR C-CHANNEL SYSTEM INTERFACE LATCH PULSE
- XLAT3

: CXD2531BR D-CHANNEL SYSTEM INTERFACE LATCH PULSE
- XLAT4

: CXD2531BR E-CHANNEL SYSTEM INTERFACE LATCH PULSE
- XRES

: CXD2531BR POWER ON RESET

- INPUT/OUTPUT
- BCD0 - BCD7

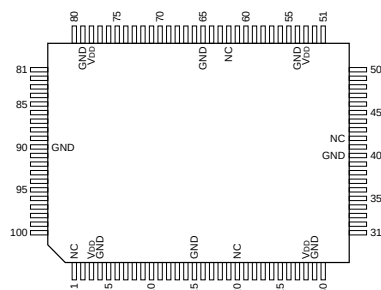
: CPU DATA
- MDA0 - MDA7

: SRAM A DATA
- MDB0 - MDB7

: SRAM B DATA

CXD8943Q (SONY)

C-MOS RF IF (CXD8919Q)/ECC CONTROL (CXD8920Q) SUB IC
—TOP VIEW—



PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	—	NC	26	I	IDATA5	51	O	OTST5	76	I	REVLDI
2	O	OAWE	27	I	IDATA6	52	O	OTST6	77	I	RESTR1
3	—	VDD	28	—	VDD	53	—	VDD	78	—	VDD
4	—	GND	29	—	GND	54	—	GND	79	—	GND
5	O	OAADR0	30	I	IDATA7	55	O	OTST7	80	O	FRERUN
6	O	OAADR1	31	O	ODATA0	56	O	OTST8	81	I	HSYNC
7	O	OAADR2	32	O	ODATA1	57	O	OTST9	82	I	VSYNC
8	O	OAADR3	33	O	ODATA2	58	O	OTST10	83	O	OTST1
9	O	OAADR4	34	O	ODATA3	59	O	OTST11	84	O	OTST0
10	O	OAADR5	35	O	ODATA4	60	O	OTST12	85	I	ADDR0
11	O	OAADR6	36	O	ODATA5	61	I	DEBUG	86	I	ADDR1
12	O	OAADR7	37	O	ODATA6	62	—	NC	87	I	ADDR2
13	O	OAADR8	38	O	ODATA7	63	O	VLD2O	88	I	ADDR3
14	O	OAADR9	39	I	ETSTRT	64	O	VSYN2O	89	I	ADDR4
15	—	GND	40	—	GND	65	—	GND	90	—	GND
16	O	OAADR10	41	I	RFCK	66	O	ECC2O	91	I	ADDR5
17	O	OAADR11	42	—	NC	67	O	ECC1O	92	I	ADDR6
18	O	OAADR12	43	I	RESTR1	68	O	REVLDO	93	I	ADDR7
19	O	OAADR13	44	I	RSTW	69	O	RESTRO	94	I	ADDR8
20	—	NC	45	O	ORSTW	70	O	OTST13	95	I	ADDR9
21	I	IDATA0	46	O	OSWCK	71	O	OTST14	96	I	ADDR10
22	I	IDATA1	47	O	OTST2	72	I	VLD2I	97	I	ADDR11
23	I	IDATA2	48	O	OTST3	73	I	VSYN2I	98	I	ADDR12
24	I	IDATA3	49	O	OTST4	74	I	ECC2I	99	I	ADDR13
25	I	IDATA4	50	I	RESET	75	I	ECC1I	100	I	AWE

INPUT

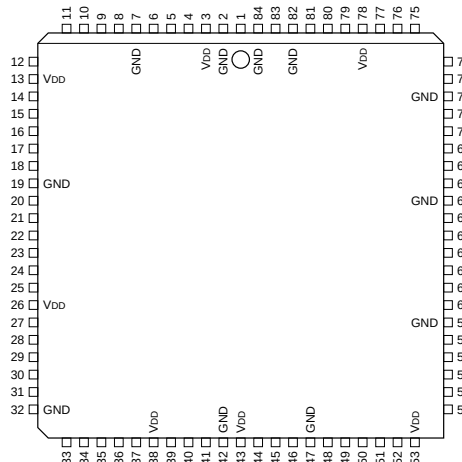
AADR0 - ADDR13	: A MEMORY ADDRESS BUS FROM CXD8920Q
DEBUG	: DEBUG MODE SWITCH
ECC1I	: ECC ECC1 TIMING
ECC2I	: TBC ECC2 TIMING
ETSTRT	: DATA START PULSE TO CXD8921Q
HSYNC	: H SYNC PULSE
IDATA0 - IDATA7	: OUTPUT DATA FROM CXD8920Q
RESET	: SYSTEM RESET
RESTR1	: ECC START
RESTR2	: DATA START PULSE FROM CXD8919Q
REVLDI	: ECC VALID
RFCK	: RF CLOCK (16 MHz)
RSTW	: FIFO RESET PULSE FROM CXD8921Q
VLD2I	: TBC VALID
VSYN2I	: TBC V SYNC
VSYNC	: V SYNC PULSE

OUTPUT

ECC1O	: ECC ECC1 TIMING
ECC2O	: TBC ECC2 TIMING
FRERUN	: SIGNAL FREE RUN MODE
OAADR0 - OAADR13	: A MEMORY ADDRESS BUS
OAWE	: A MEMORY WRITE ENABLE
ODATA0 - ODATA7	: CXD8920Q OUTPUT DATA TO FIFO
ORSTW	: FIFO RESET PULSE
OSWCK	: FIFO WRITE CLOCK
OTST0 - OTST14	: TEST
RESTRO	: ECC START
REVLDO	: ECC VALID
VLD2O	: TBC VALID
VSYN2O	: TBC V SYNC

CXD8980J (SONY)

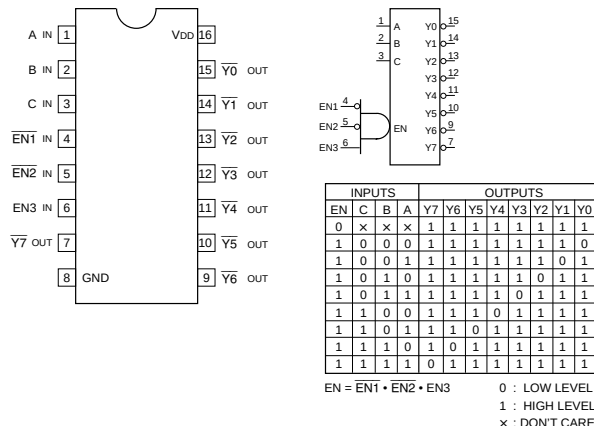
C-MOS CPU PERIPHERAL
—TOP VIEW—



PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	I	SYSCLR	22	I	INTA	43	—	VDD	64	O	PICM
2	—	GND	23	O	INT1	44	O	RAS	65	O	DSP STB
3	—	VDD	24	O	CPU RESET	45	O	MUX	66	—	GND
4	I	A25	25	O	CPU CLK2	46	O	CAS	67	O	BUFCS
5	I	A26	26	—	VDD	47	—	GND	68	O	BUFDEN
6	I	A27	27	I	BE0	48	O	OE	69	I	CARDINT
7	—	GND	28	I	BE1	49	O	WEL	70	O	LED FAIL
8	I	A28	29	I	AL1	50	O	WEH	71	O	CLK1
9	I	A29	30	I	AL2	51	O	REFSH	72	—	GND
10	I	A30	31	I	AL3	52	I	INT IN	73	O	WR
11	I	A31	32	—	GND	53	—	VDD	74	O	RD
12	I	RST	33	O	SCLK	54	O	FLASH0	75	I	AI9
13	—	VDD	34	O	DSP RW	55	O	FLASH1	76	I	VPPON
14	O	READY	35	I	AH1	56	O	EXTCS	77	O	INT OUT
15	I	ALE	36	I	AH2	57	O	EXTDEN	78	—	VDD
16	I	AS	37	I	AH3	58	O	CARDCS	79	I	INT CLR
17	I	BLAST	38	—	VDD	59	—	GND	80	I	A23
18	I	DT R	39	O	MA1	60	O	CARDDEN	81	I	A24
19	—	GND	40	O	MA2	61	O	INTCS	82	—	GND
20	I	DEN	41	O	MA3	62	O	INTDEN	83	I	CLK64M
21	I	WR	42	—	GND	63	O	PICS	84	—	GND

CY74FCT138ATSOC-T2
TC74VHC138F(EL) (TOSHIBA)

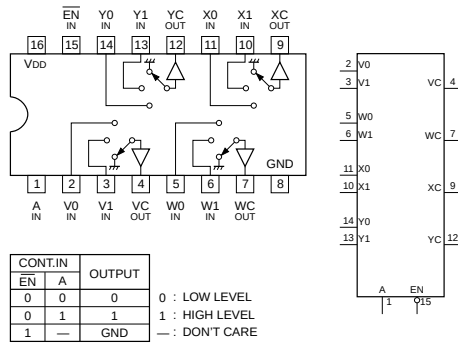
C-MOS 3-TO-8 LINE DECODER/DEMULTIPLEXER
—TOP VIEW—



CY74FCT157ATSOC-T2 (CYPRESS)

C-MOS QUAD 2-INPUT MULTIPLEXERS

—TOP VIEW—

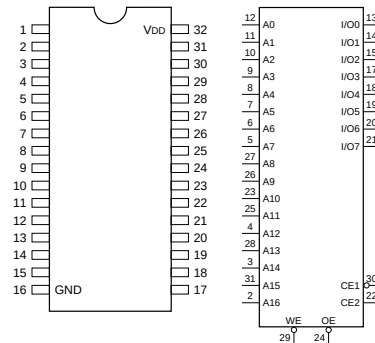


CONT.IN		OUTPUT	
$\overline{\text{EN}}$	A		
0	0	0	0 : LOW LEVEL
0	1	1	1 : HIGH LEVEL
1	—	GND	— : DON'T CARE

CY7C109-20VCTEL (CYPRESS)FLAT PACKAGE

C-MOS (128 K × 8)-BIT SRAM

—TOP VIEW—



PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	I	NC	17	I/O	I/O3
2	I	A16	18	I/O	I/O4
3	I	A14	19	I/O	I/O5
4	I	A12	20	I/O	I/O6
5	I	A7	21	I/O	I/O7
6	I	A6	22	I	CE2
7	I	A5	23	I	A10
8	I	A4	24	I	OE
9	I	A3	25	I	A11
10	I	A2	26	I	A9
11	I	A1	27	I	A8
12	I	A0	28	I	A13
13	I/O	I/O0	29	I	WE
14	I/O	I/O1	30	I	CE1
15	I/O	I/O2	31	I	A15
16	—	GND	32	—	V _{DD}

INPUT

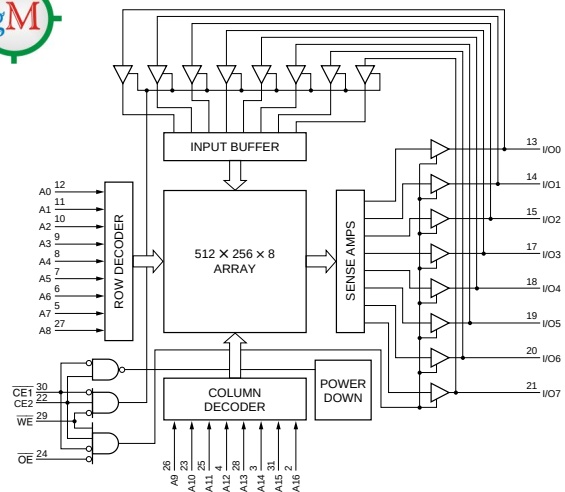
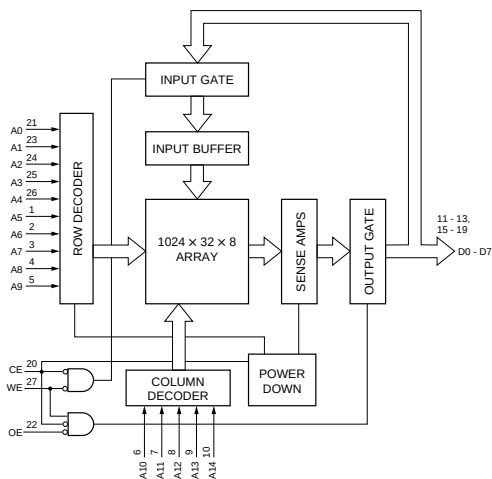
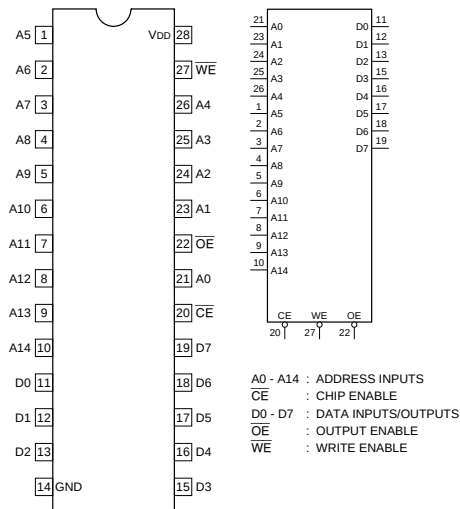
A0 - A16	: ADDRESS
$\overline{\text{CE1}}, \text{CE2}$	: CHIP ENABLE
$\overline{\text{OE}}$	: OUTPUT ENABLE
$\overline{\text{WE}}$	: WRITE ENABLE

INPUT/OUTPUT
I/O0 - I/O7 : DATA

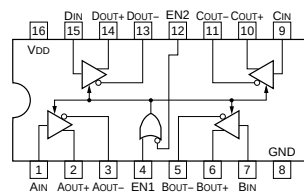
CY7C199-20VC (CYPRESS)J-LEADED PACKAGE

C-MOS 256 K (32,768 × 8)-BIT SRAM

—TOP VIEW—



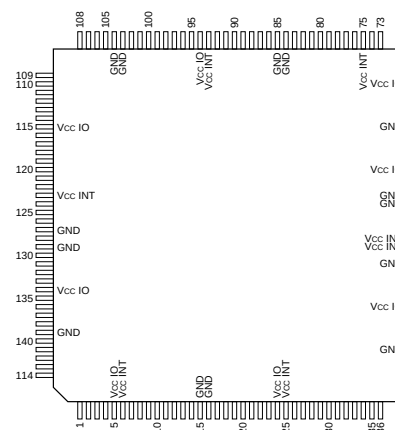
DS26C31TM (NS)FLAT PACKAGE

C-MOS QUAD DIFFERENTIAL LINE DRIVER
—TOP VIEW—

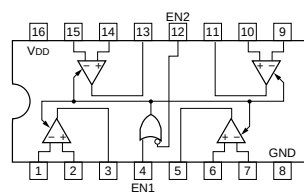
INPUTS		OUTPUTS		
EN2	EN1	IN	+	-
1	0	x	HI-Z	HI-Z
ALL OTHER COMBINATIONS OF ENABLE INPUTS		L	L	H
		H	H	L

0 : LOW LEVEL
1 : HIGH LEVEL
x : DON'T CARE
HI-Z : HIGH IMPEDANCE

EPF10K20TC144-3 (ALTERA)

C-MOS EMBEDDED PROGRAMMABLE LOGIC DEVICE
—TOP VIEW—

DS26C32ATM (NS)FLAT PACKAGE

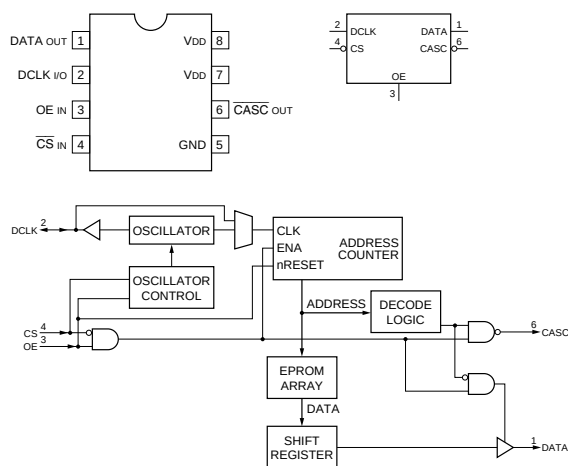
C-MOS QUAD DIFFERENTIAL LINE RECEIVER
—TOP VIEW—

FUNCTION TABLE

EN2	EN1	OUTPUT
0	0	ENABLE
0	1	ENABLE
1	0	HI-Z
1	1	ENABLE

0 : LOW LEVEL
 1 : HIGH LEVEL
 HI-Z : HIGH IMPEDANCE

EPC1PC8 (ALTERA)

C-MOS SERIAL EPROM
—TOP VIEW—

INPUT
 CS : CHIP SELECT
 OE : OUTPUT ENABLE

INPUT/OUTPUT
 DCLK : CLOCK

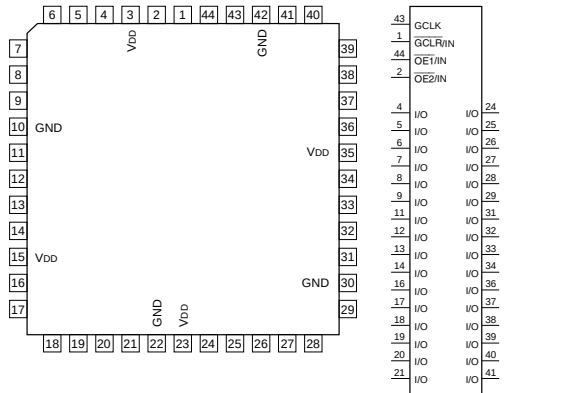
OUTPUT
 CASC : CASCADE SELECT

PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	I	TCLK	37	I/O	I/O	73	I/O	I/O	109	I/O	DATA1
2	I/O	CONF DONE	38	I/O	I/O	74	I	CONFIG	110	I/O	DATA2
3	I	CEO	39	I/O	I/O	75	—	Vcc INT	111	I/O	DATA3
4	O	TDO	40	—	GND	76	I	MSEL1	112	I/O	DATA4
5	—	Vcc IO	41	I/O	I/O	77	I	MSEL0	113	I/O	DATA5
6	—	Vcc INT	42	I/O	I/O	78	I/O	I/O	114	I/O	DATA6
7	I	CLKUSR	43	I/O	I/O	79	I/O	I/O	115	—	Vcc IO
8	I/O	I/O	44	I/O	I/O	80	I/O	I/O	116	I/O	DATA7
9	I/O	I/O	45	—	Vcc IO	81	I/O	I/O	117	I/O	I/O
10	I/O	I/O	46	I/O	I/O	82	I/O	I/O	118	I/O	I/O
11	I/O	RDY BSY	47	I/O	I/O	83	I/O	I/O	119	I/O	I/O
12	I/O	I/O	48	I/O	I/O	84	—	GND	120	I/O	I/O
13	I/O	I/O	49	I/O	I/O	85	—	GND	121	I/O	I/O
14	I/O	INT DONE	50	—	GND	86	I/O	I/O	122	I/O	DEV CLR
15	—	GND	51	I/O	I/O	87	I/O	I/O	123	—	Vcc INT
16	—	GND	52	—	Vcc INT	88	I/O	I/O	124	I/O	I/O
17	I/O	I/O	53	—	Vcc INT	89	I/O	I/O	125	I	GCLK0
18	I/O	I/O	54	I/O	I/O	90	I/O	I/O	126	I/O	I/O
19	I/O	I/O	55	I	GCLK1	91	I/O	I/O	127	—	GND
20	I/O	I/O	56	I/O	I/O	92	I/O	I/O	128	I	DEV OE
21	I/O	I/O	57	—	GND	93	—	Vcc INT	129	—	GND
22	I/O	I/O	58	—	GND	94	—	Vcc IO	130	I/O	I/O
23	I/O	I/O	59	I/O	I/O	95	I/O	I/O	131	I/O	I/O
24	—	Vcc IO	60	I/O	I/O	96	I/O	I/O	132	I/O	I/O
25	—	Vcc INT	61	—	Vcc IO	97	I/O	I/O	133	I/O	I/O
26	I/O	I/O	62	I/O	I/O	98	I/O	I/O	134	—	Vcc IO
27	I/O	I/O	63	I/O	I/O	99	I/O	I/O	135	I/O	I/O
28	I/O	I/O	64	I/O	I/O	100	I/O	I/O	136	I/O	I/O
29	I/O	I/O	65	I/O	I/O	101	I/O	I/O	137	I/O	I/O
30	I/O	I/O	66	—	GND	102	I/O	I/O	138	I/O	I/O
31	I/O	I/O	67	I/O	I/O	103	—	GND	139	—	GND
32	I/O	I/O	68	I/O	I/O	104	—	GND	140	I/O	I/O
33	I/O	I/O	69	I/O	I/O	105	I	TDI	141	I/O	RS
34	I	TMS	70	I/O	I/O	106	I	CE	142	I/O	WS
35	O	STATUS	71	—	Vcc IO	107	I	DCLK	143	I/O	CS
36	I/O	I/O	72	I/O	I/O	108	I	DATA0	144	I/O	CS

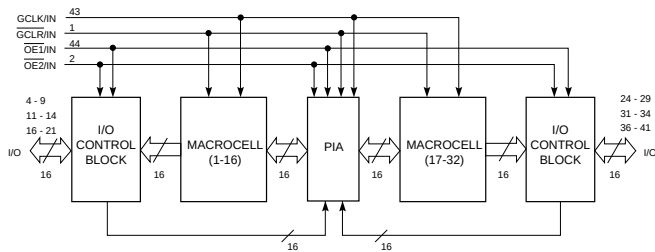
EPM7032LC44-15 (ALTERA)

C-MOS ERASABLE PLD

—TOP VIEW—



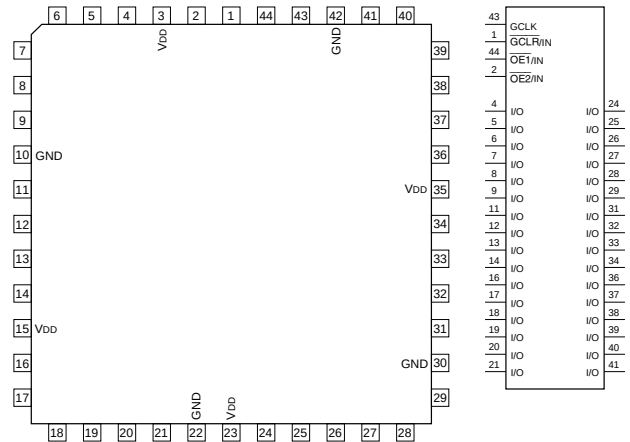
PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	I	GCLR/IN	12	I/O	I/O	23	—	VDD	34	I/O	I/O
2	I	OE2/IN	13	I/O	I/O	24	I/O	I/O	35	—	VDD
3	—	VDD	14	I/O	I/O	25	I/O	I/O	36	I/O	I/O
4	I/O	I/O	15	—	VDD	26	I/O	I/O	37	I/O	I/O
5	I/O	I/O	16	I/O	I/O	27	I/O	I/O	38	I/O	I/O
6	I/O	I/O	17	I/O	I/O	28	I/O	I/O	39	I/O	I/O
7	I/O	I/O	18	I/O	I/O	29	I/O	I/O	40	I/O	I/O
8	I/O	I/O	19	I/O	I/O	30	I/O	I/O	41	I/O	I/O
9	I/O	I/O	20	I/O	I/O	31	—	GND	42	—	GND
10	—	GND	21	I/O	I/O	32	I/O	I/O	43	I	GCLK/IN
11	I/O	I/O	22	—	GND	33	I/O	I/O	44	I	OE1/IN



EPM7064LC44-15 (ALT)

C-MOS EPLD

—TOP VIEW—

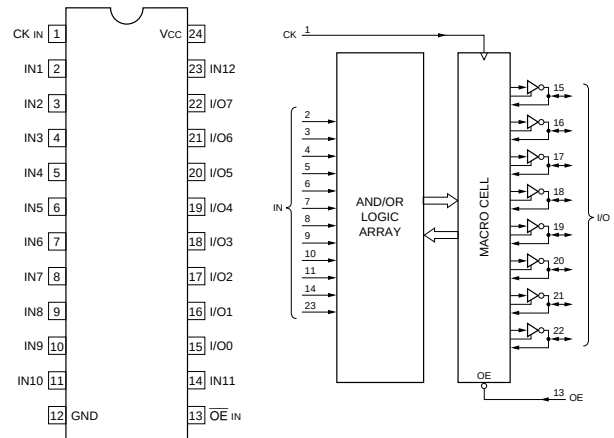


PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	I	GCLR/IN	12	I/O	I/O	23	—	VDD	34	I/O	I/O
2	I	OE2/IN	13	I/O	I/O	24	I/O	I/O	35	—	VDD
3	—	VDD	14	I/O	I/O	25	I/O	I/O	36	I/O	I/O
4	I/O	I/O	15	—	VDD	26	I/O	I/O	37	I/O	I/O
5	I/O	I/O	16	I/O	I/O	27	I/O	I/O	38	I/O	I/O
6	I/O	I/O	17	I/O	I/O	28	I/O	I/O	39	I/O	I/O
7	I/O	I/O	18	I/O	I/O	29	I/O	I/O	40	I/O	I/O
8	I/O	I/O	19	I/O	I/O	30	—	GND	41	I/O	I/O
9	I/O	I/O	20	I/O	I/O	31	I/O	I/O	42	—	GND
10	—	GND	21	I/O	I/O	32	I/O	I/O	43	I	GCLK/IN
11	I/O	I/O	22	—	GND	33	I/O	I/O	44	I	OE1/IN

GAL20V8B-25QJ (LATTICE)

C-MOS ELECTRICALLY ERASABLE PROGRAMMABLE LOGIC DEVICE

—TOP VIEW—

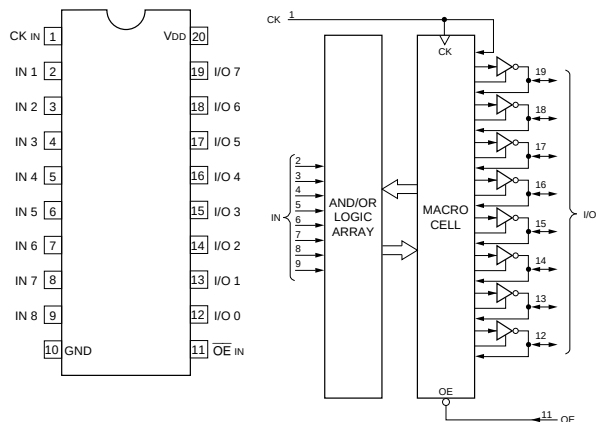


GAL16V8D-25LP

GAL16V8D-7LJ

C-MOS ELECTRICALLY ERASABLE PROGRAMMABLE LOGIC DEVICE

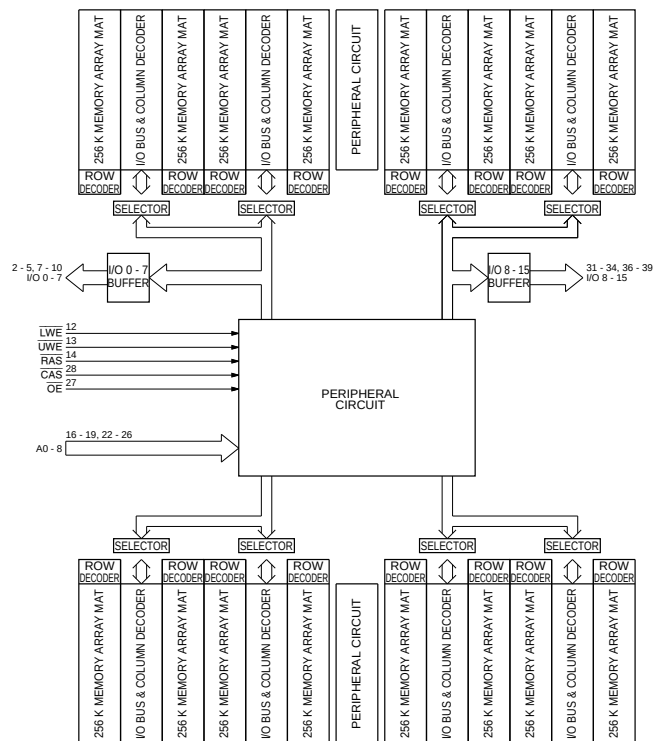
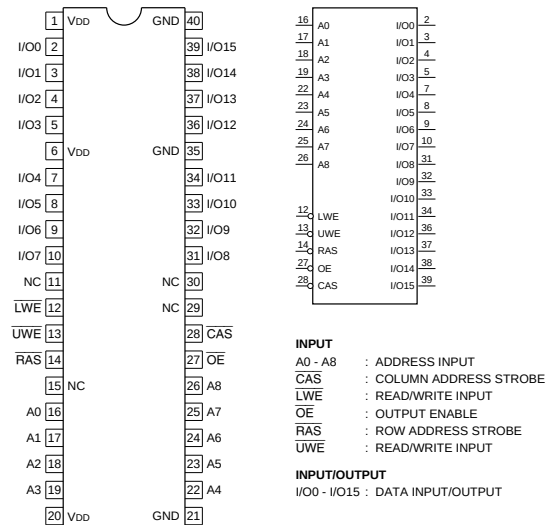
—TOP VIEW—



HM514270CJ-7

C-MOS 4 M (262,144 W x 16)-BIT DRAM

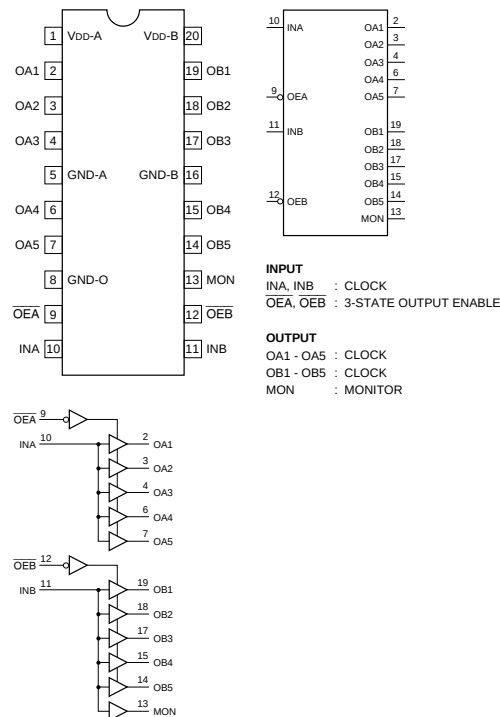
—TOP VIEW—



IDT49FCT805SO (IDT)FLAT PACKAGE

C-MOS 8-BIT NON-INVERTING CLOCK DRIVER

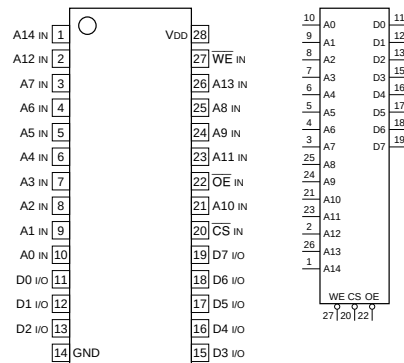
—TOP VIEW—



LC35256DM-10-TLM (SANYO)FLAT PACKAGE

C-MOS 256 K (32,768WORD x 8)-BIT SRAM

—TOP VIEW—



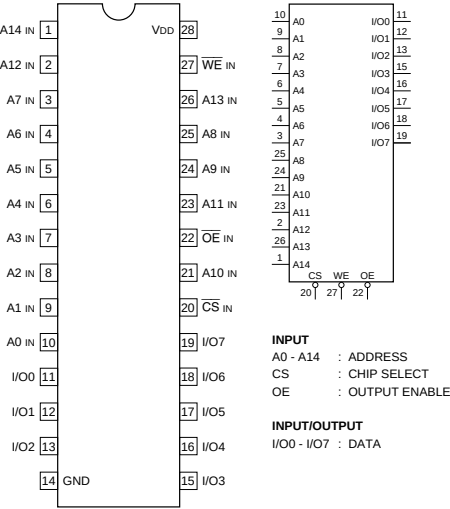
A0 - A14 : ADDRESS INPUTS
D0 - D7 : DATA INPUTS/OUTPUTS
CS : CHIP SELECT INPUT
OE : OUTPUT ENABLE INPUT
WE : WRITE ENABLE INPUT

CS	OE	WE	OUTPUTS	FUNCTION
1	x	x	HI-Z	NO SELECTION
0	1	1	HI-Z	OUTPUT DISABLE
0	0	1	D OUT	READ
0	x	0	D IN	WRITE

0 : LOW LEVEL
1 : HIGH LEVEL
x : DON'T CARE
HI-Z : HIGH IMPEDANCE

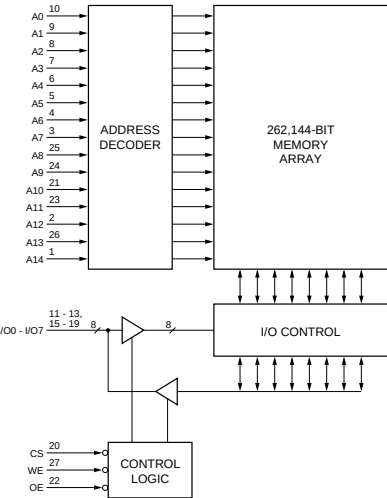
IDT71256SA20Y (IDT)

C-MOS 256 K (32 K × 8)-BIT SRAM
—TOP VIEW—



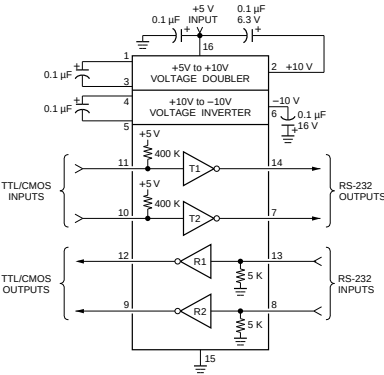
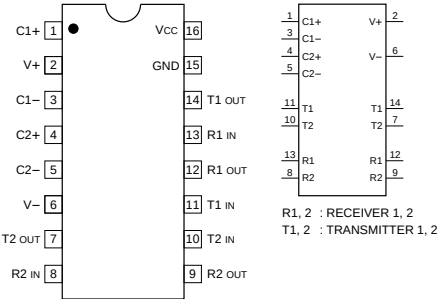
CS	OE	WE	OUTPUTS	FUNCTION
1	X	X	HI-Z	NO SELECTION
0	1	1	HI-Z	OUTPUT DISABLE
0	0	1	DOUT	READ
0	X	0	DIN	WRITE

0 : LOW LEVEL
1 : HIGH LEVEL
X : DON'T CARE
HI-Z : HIGH IMPEDANCE



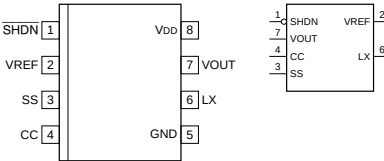
MAX202CSE (MAXIM)
MAX202CSE-T

RS-232 TRANSMITTER/RECEIVER
—TOP VIEW—



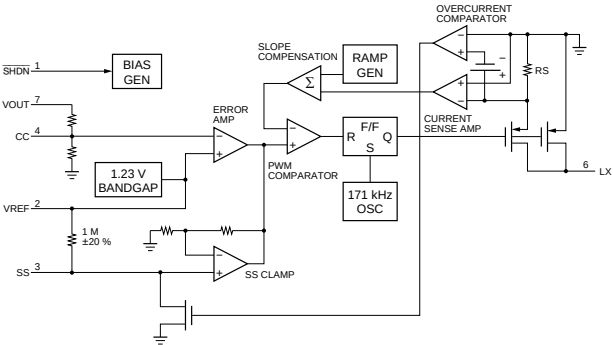
MAX734CSA (MAXIM) FLAT PACKAGE

C-MOS PROGRAMING POWER SUPPLY FOR FLASH MEMORY
—TOP VIEW—



INPUT
CC : COMPENSATION CAPACITOR
SHDN : SHUTDOWN (SHUTDOWN : GND NORMAL : VDD)
SS : SOFT START
VREF : REFERENCE VOLTAGE OUTPUT (+1.23 V)

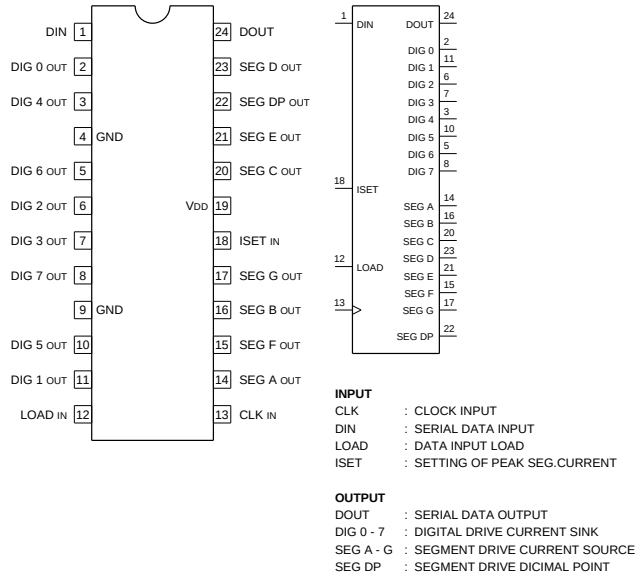
OUTPUT
LX : INTERNAL N-CHANNEL POWER-MOSFET DRAIN
VOUT : OUTPUT VOLTAGE DETECTION INPUT FOR REGULATION FEEDBACK DETECTION



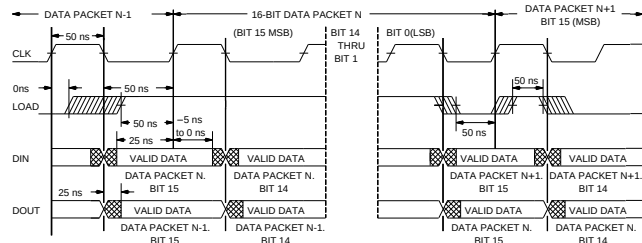
MAX7219CNG (MAXIM)

C-MOS 8-SEGMENT DISPLAY DRIVER WITH SERIAL INTERFACE

—TOP VIEW—



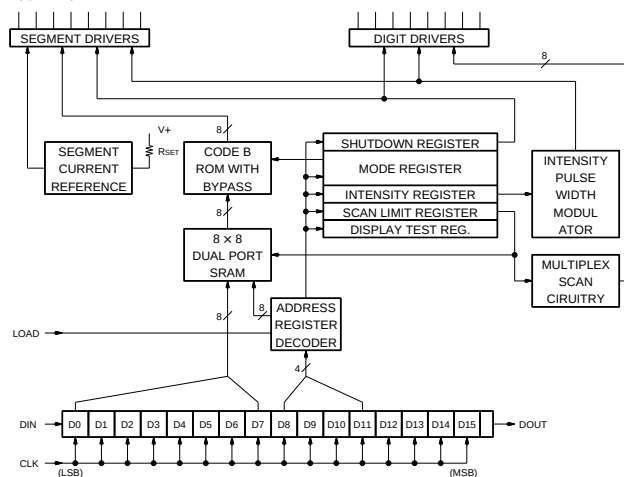
TIMING CHART



SERIAL DATA FORMAT (16-BIT)

D15	D14	D13	D12	D11	D10	D9	D8	D7	D6	D5	D4	D3	D2	D1	D0
X	X	X	X	ADDRESS				DATA							
X = 'don't care' bit															

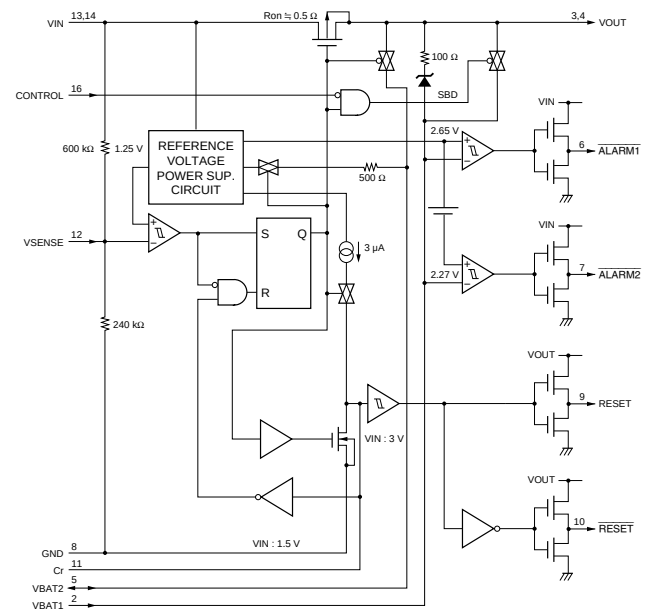
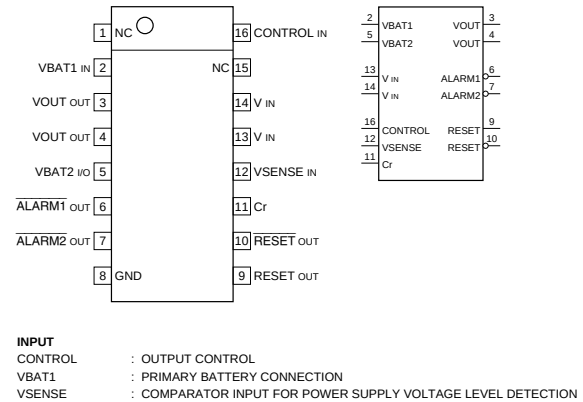
BLOCK DIAGRAM



MB3790PF (FUJITSU) FLAT PACKAGE

C-MOS BACKUP BATTERY

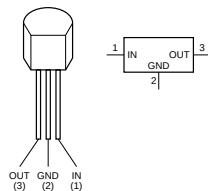
—TOP VIEW—



NJM2930L-05

POSITIVE VOLTAGE REGULATOR

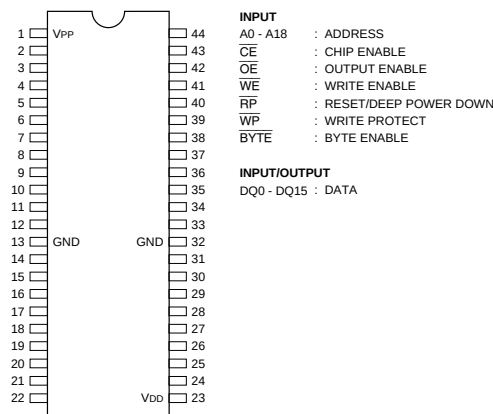
—FRONT VIEW—



PA28F400BV-B60 (INTEL) FLAT PACKAGE

C-MOS 4-MBIT BOOT BLOCK FLASH MEMORY

—TOP VIEW—

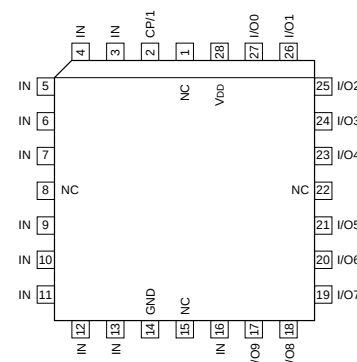


PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	—	VPP	12	I	CE	23	—	VDD	34	I	A16
2	I	WP	13	I	GND	24	I/O	DQ4	35	I	A15
3	I	A17	14	I	OE	25	I/O	DQ12	36	I	A14
4	I	A7	15	I/O	DQ0	26	I/O	DQ5	37	I	A13
5	I	A6	16	I/O	DQ8	27	I/O	DQ13	38	I	A12
6	I	A5	17	I/O	DQ1	28	I/O	DQ6	39	I	A11
7	I	A4	18	I/O	DQ9	29	I/O	DQ14	40	I	A10
8	I	A3	19	I/O	DQ2	30	I/O	DQ7	41	I	A9
9	I	A2	20	I/O	DQ10	31	I/O	DQ15/A1	42	I	A8
10	I	A1	21	I/O	DQ3	32	—	GND	43	I	WE
11	I	A0	22	I/O	DQ11	33	I	BYTE	44	I	RP

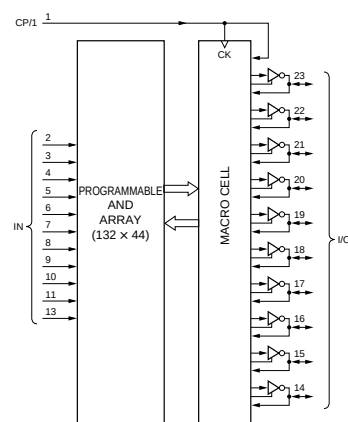
PALC22V10D-25JC (CYPRESS) FLAT PACKAGE

C-MOS ELECTRICALLY ERASABLE PROGRAMMABLE LOGIC DEVICE

—TOP VIEW—



* ABOVE DIAGRAM SHOWS CONDITIONS BEFORE PROGRAMMING.



SN74ABT245BNS-E05

SN74HC245ANS (TI) FLAT PACKAGE

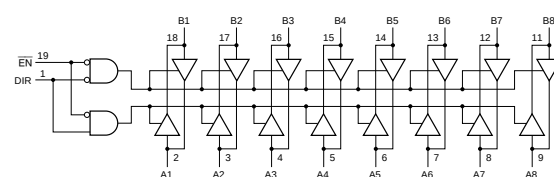
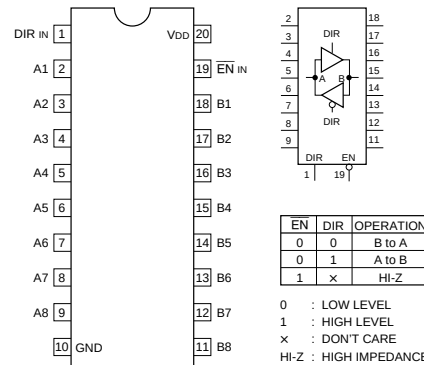
SN74HCT245ANS (TI) FLAT PACKAGE

SN74HCT245ANS-E05

TC74VHC245F(EL) (TOSHIBA) FLAT PACKAGE

C-MOS BILATERAL BUS TRANSCEIVERS WITH 3-STATE OUTPUTS

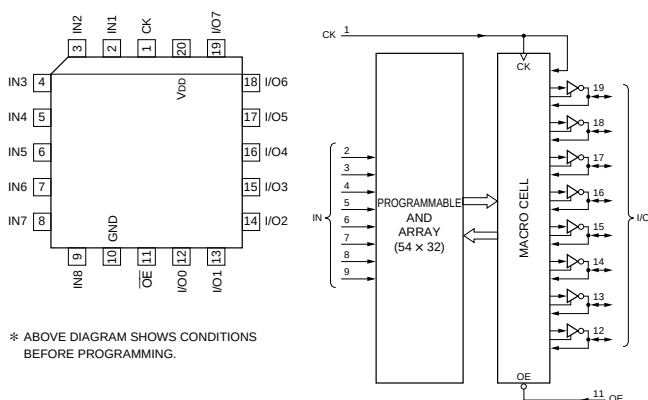
—TOP VIEW—



PALCE16V8-7JC (CYPRESS) FLAT PACKAGE

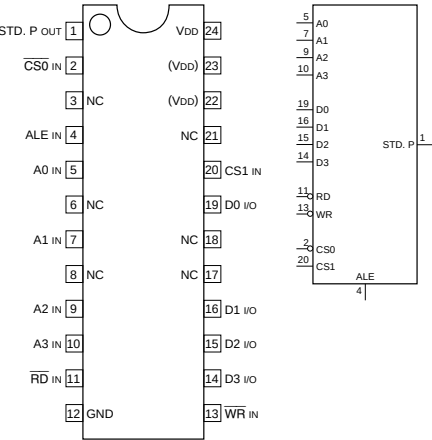
C-MOS ELECTRICALLY ERASABLE PROGRAMMABLE LOGIC DEVICE

—TOP VIEW—



RTC-62423AL (EPSON)

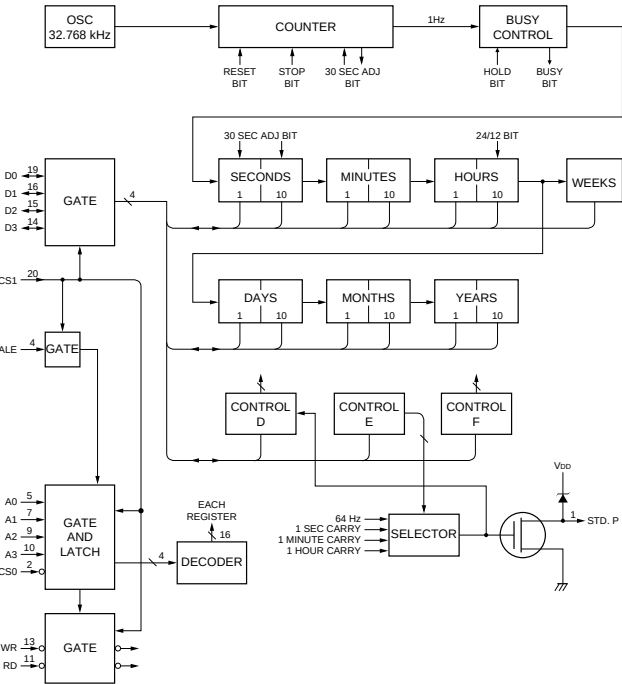
C-MOS REAL TIME CLOCK
—TOP VIEW—



INPUT
A0 - A3 : ADDRESS BUS INPUTS
ALE : ADDRESS LATCH ENABLE
CS0, CS1 : CHIP SELECT
RD : READ
WR : WRITE

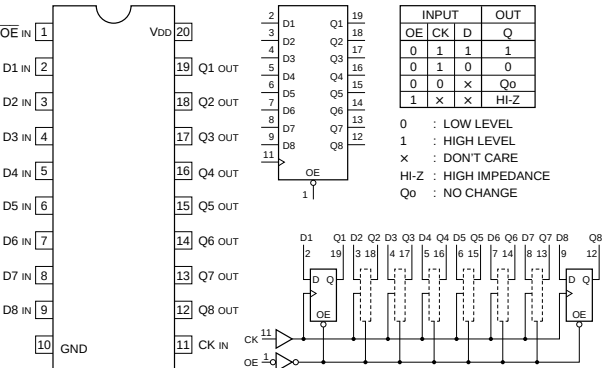
OUTPUT
STD. P : STANDARD PULSE

INPUT/OUTPUT
D0 - D3 : DATA BUS INPUTS/OUTPUTS



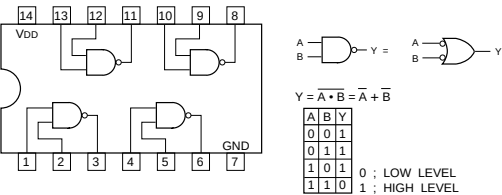
SN74ABT573ANS-E05

C-MOS 3-STATE OUTPUTS OCTAL LATCHES
—TOP VIEW—



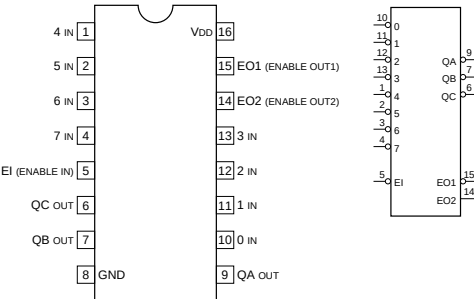
SN74HC00ANS (TI) FLAT PACKAGE
SN74HC00ANS-E05
TC74VHC00F (TOSHIBA) FLAT PACKAGE
TC74VHC00F(EL)

C-MOS QUAD 2-INPUT NAND GATES
—TOP VIEW—



SN74HC148NS (TI) FLAT PACKAGE
SN74HC148ANS-E05

C-MOS 8-TO-3-LINE PRIORITY ENCODER
—TOP VIEW—



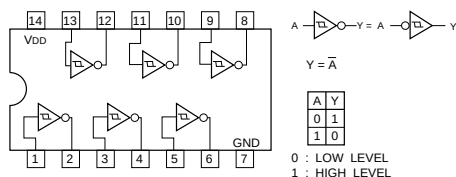
INPUTS								OUTPUTS			
EI	7	6	5	4	3	2	1	0	QC	QB	QA
1	x	x	x	x	x	x	x	x	1	1	1
0	1	1	1	1	1	1	1	1	1	1	0
0	1	1	1	1	1	1	1	0	1	1	1
0	1	1	1	1	1	1	0	x	1	1	0
0	1	1	1	1	1	0	x	x	1	0	1
0	1	1	1	1	0	x	x	x	1	0	0
0	1	1	1	0	x	x	x	x	0	1	1
0	1	1	0	x	x	x	x	x	0	1	0
0	1	0	x	x	x	x	x	x	0	0	1
0	0	x	x	x	x	x	x	x	0	0	0

0 : LOW LEVEL
1 : HIGH LEVEL
x : DON'T CARE

MC74HC14AF
SN74HC14ANS (TI)FLAT PACKAGE
TC74VHC14F (TOSHIBA)FLAT PACKAGE
TC74VHC14F(EL)

C-MOS HEX SCHMITT TRIGGER INVERTERS

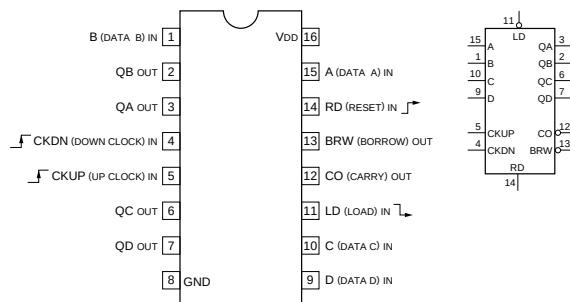
—TOP VIEW—



SN74HC193ANS (TI)FLAT PACKAGE

C-MOS PRESETTABLE SYNCHRONOUS 4-BIT UP/DOWN COUNTER

—TOP VIEW—



CONTROL INPUT				MODE
RD	LD	CKUP	CKDN	
1	x	x	x	RESET TO ZERO
0	0	x	x	PRESET
0	1	1	1	UP COUNT
0	1	1	0	DOWN COUNT
0	1	1	1	NO COUNT

$CO = \overline{CKUP} \cdot QA \cdot QB \cdot QC \cdot QD$

CKUP
COUNT = 15
(A = B = C = D = HIGH)

$BRW = \overline{CKDN} \cdot QA \cdot QB \cdot QC \cdot QD$

CKDN
COUNT = 0
(A = B = C = D = LOW)

COUNT	OUTPUT			
	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

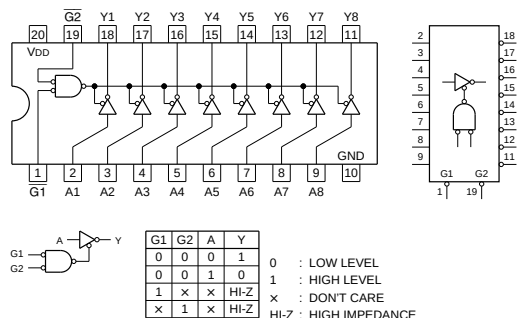
UP COUNT
DOWN COUNT

0 : LOW LEVEL
1 : HIGH LEVEL
x : DON'T CARE

SN74HC540ANS (TI)FLAT PACKAGE
SN74HC540ANS-E05
TC74VHC540F(EL) (TOSHIBA)FLAT PACAGE

C-MOS 3-STATE OCTAL INVERTING BUFFERS/DRIVERS

—TOP VIEW—



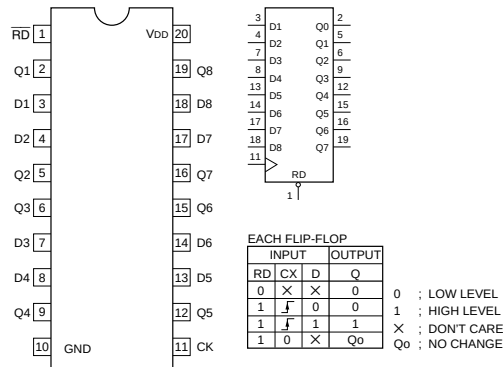
G1	G2	A	Y
0	0	0	1
0	0	1	0
1	x	x	HI-Z
x	1	x	HI-Z

0 : LOW LEVEL
1 : HIGH LEVEL
x : DON'T CARE
HI-Z : HIGH IMPEDANCE

SN74HC273ANS-E05 (TI)FLAT PACKAGE

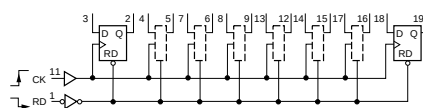
C-MOS OCTAL D-TYPE FLIP-FLOPS WITH RESET

—TOP VIEW—



EACH FLIP-FLOP			
RD	CX	D	Q
0	x	x	0
1	1	0	0
1	1	1	1
1	0	x	Q0

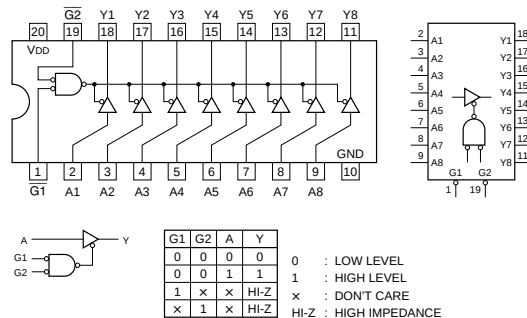
0 : LOW LEVEL
1 : HIGH LEVEL
x : DON'T CARE
Q0 : NO CHANGE



SN74HC541ANS (TI)FLAT PACKAGE
SN74HCT541ANS (TI)FLAT PACKAGE
SN74HCT541ANS-E05
TC74AC541F-EL
TC74VHC541F (TOSHIBA)FLAT PACKAGE
TC74VHC541F(EL)

C-MOS BUFFERS AND LINE DRIVERS WITH 3-STATE OUTPUTS

—TOP VIEW—



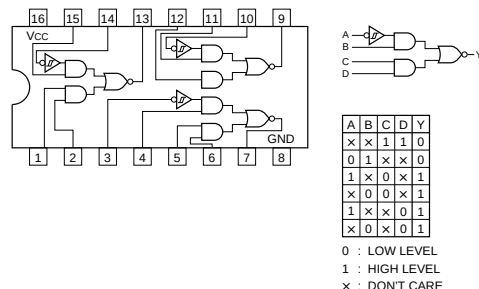
G1	G2	A	Y
0	0	0	0
0	0	1	1
1	x	x	HI-Z
x	1	x	HI-Z

0 : LOW LEVEL
1 : HIGH LEVEL
x : DON'T CARE
HI-Z : HIGH IMPEDANCE

SN75124NS (TI)
SN75124NS-E05

TRIPLE LINE RECEIVER

—TOP VIEW—

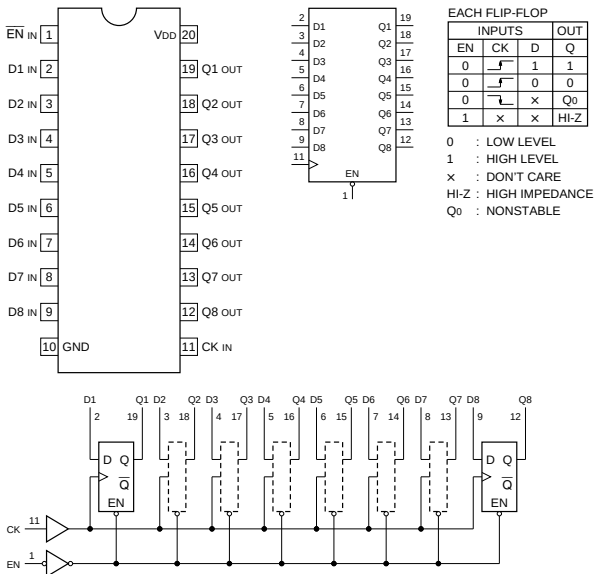


A	B	C	D	Y
x	x	1	1	0
0	1	x	x	0
1	x	0	x	1
x	0	0	x	1
1	x	x	0	1
x	0	0	1	1

0 : LOW LEVEL
1 : HIGH LEVEL
x : DON'T CARE

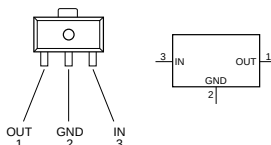
SLB-55MG3F
SN74HC574ANS (TI) FLAT PACKAGE
SN74HC574ANS-E05
TC74VHCT574F(EL) (TOSHIBA) FLAT PACKAGE

C-MOS 3-STATE D-TYPE EDGE-TRIGGERED FLIP-FLOP
—TOP VIEW—



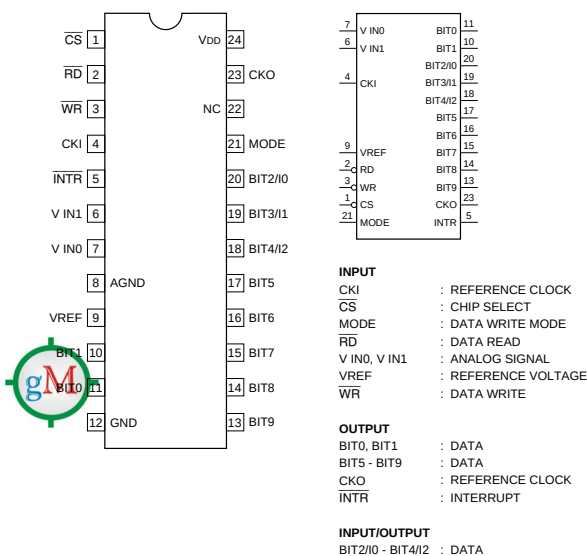
TA78L05F (TOSHIBA)+5 V (100 mA)
TA78L05F-TE12L

POSITIVE VOLTAGE REGULATOR
—SIDE VIEW—



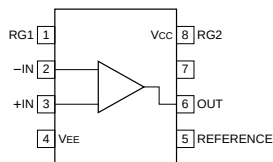
TC35083F (TOSHIBA) FLAT PACKAGE

C-MOS 10-BIT 2-CH A/D CONVERTER
—TOP VIEW—



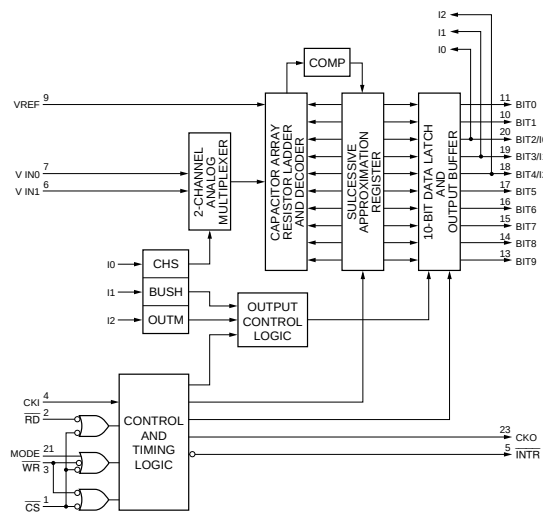
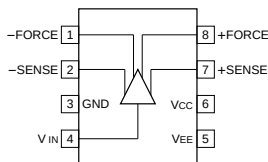
SSM-2017P (PMI)

SELF-CONTAINED AUDIO PREAMPLIFIER
—TOP VIEW—



SSM-2142P (PMI)

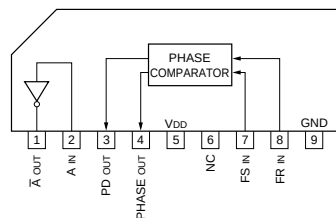
BALANCED LINE DRIVER
—TOP VIEW—



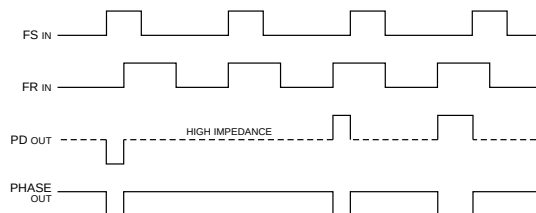
TC5081AP (TOSHIBA)

C-MOS PHASE COMPARATOR

—TOP VIEW—



PHASE COMPARATOR TIMING CHART

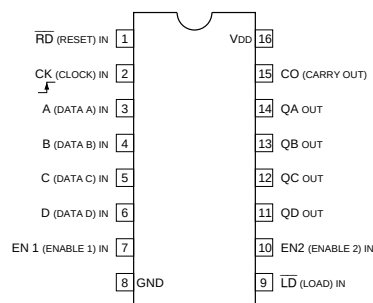


TC74HC161AF

TC74HC161AF(EL)

C-MOS SYNCHRONOUS PRESETTABLE 4-BIT BINARY COUNTER

—TOP VIEW—

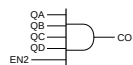


MODE SELECTION

CONTROL INPUTS				MODE
Rd	LD	EN1	EN2	
0	x	x	x	RESET (ASYNCHRONOUS)
1	0	x	x	PRESET (SYNCHRONOUS)
1	1	0	x	NO COUNT
1	1	x	0	NO COUNT
1	1	1	1	COUNT

0 : LOW LEVEL
1 : HIGH LEVEL
x : DON'T CARE

CARRY OUTPUT "CO"



CO IS HIGH WHEN EN2 INPUT IS HIGH AND COUNT IS "15".

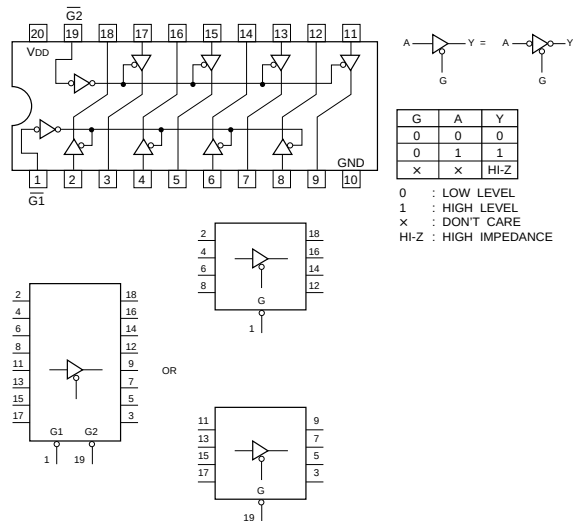
COUNT SEQUENCE

COUNT	OUTPUTS			
	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

TC74HC244AF(EL)

C-MOS BUS BUFFER WITH 3-STATE OUTPUTS

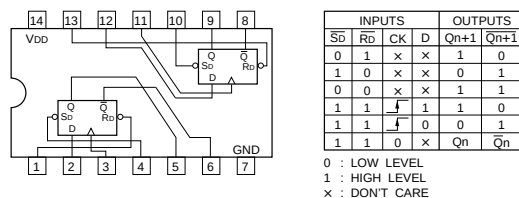
—TOP VIEW—



TC74HC74AF(EL) (TOSHIBA) FLAT PACKAGE

C-MOS DUAL D-TYPE FLIP-FLOPS WITH DIRECT SET/RESET

—TOP VIEW—

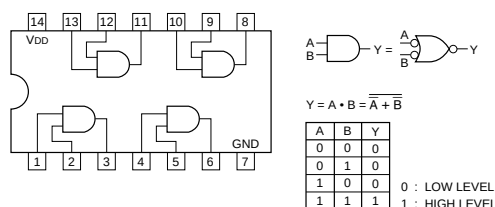


0 : LOW LEVEL
1 : HIGH LEVEL
x : DON'T CARE

TC74VHC08F(EL) (TOSHIBA)

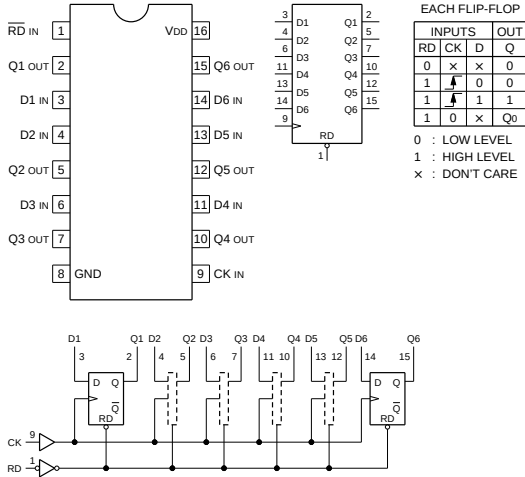
C-MOS QUAD 2-INPUT AND GATES

—TOP VIEW—



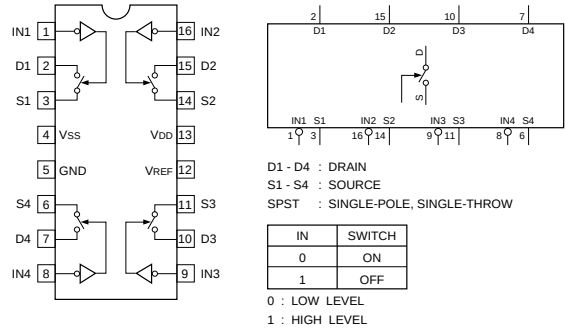
TC74VHC174F (TOSHIBA) FLAT PACKAGE TC74VHC174F(EL)

C-MOS D-TYPE FLIP-FLOP WITH RESET
—TOP VIEW—



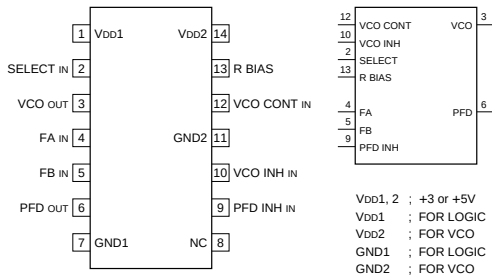
UPD5201G (NEC) FLAT PACKAGE

C-MOS QUAD SPST ANALOG SWITCH
—TOP VIEW—



TLC2932IPW (TI) TLC2932IPW-E05

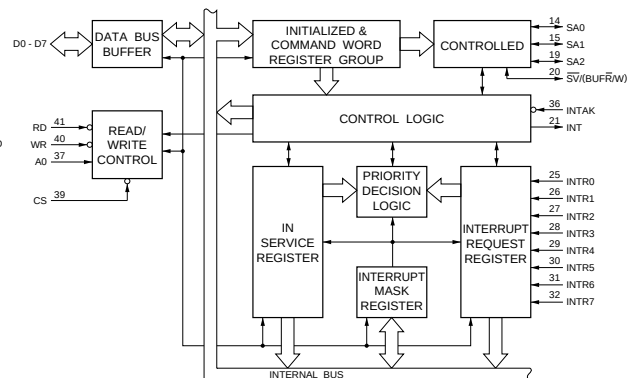
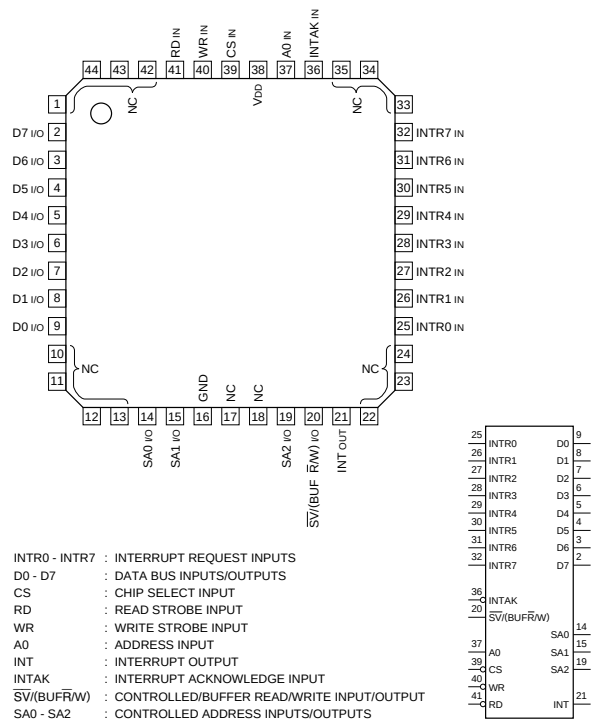
C-MOS VCO AND PHASE FREQUENCY DETECTOR
—TOP VIEW—



- INPUT**
- FA : REFERENCE FREQUENCY
 - FB : INPUT FREQUENCY FROM OUTSIDE COUNTER
 - PFD INH : PFD INHIBIT
 - SELECT : VCO OUTPUT FREQUENCY SELECT
 - VCO CONT : VCO CONTROL VOLTAGE
 - VCO INH : VCO INHIBIT
- OUTPUT**
- PFD : PHASE FREQUENCY DETECTOR
 - VCO : VOLTAGE CONTROLLED OSCILLATOR
- OTHER**
- R BIAS : BIAS RESISTOR FOR VCO OSCILLATION FREQUENCY SETTING

UPD71059GB-10-3B4 (NEC) FLAT PACKAGE

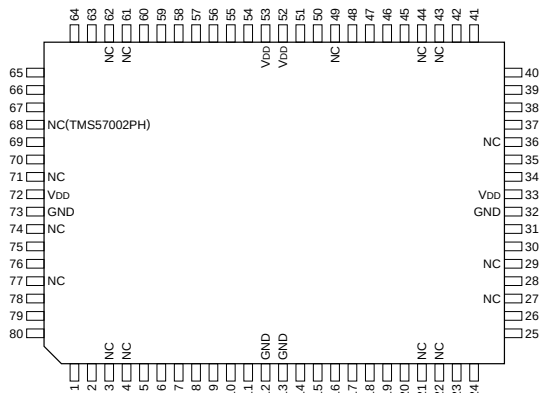
C-MOS INTERRUPT CONTROL UNIT
—TOP VIEW—



TMS57002DPHA (TI)

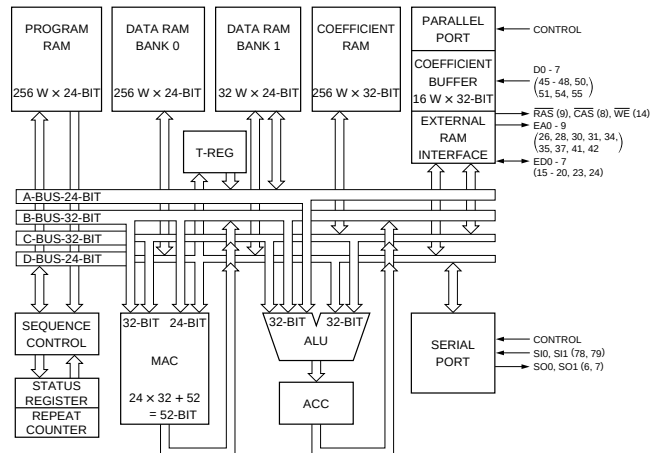
C-MOS DIGITAL AUDIO SIGNAL PROCESSOR

—TOP VIEW—



PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	I	SYNPOL	21	—	NC	41	O	EA8	61	—	NC
2	I	BCKO	22	—	NC	42	O	EA9 (MSB)	62	—	NC
3	—	NC	23	I/O	ED6	43	—	NC	63	O	EMPTY
4	—	NC	24	I/O	ED7 (MSB)	44	—	NC	64	I	MUTE
5	I	LRCKO	25	O	EA0 (LSB)	45	I	D0 (LSB)	65	I	CS
6	O	SO0	26	O	EA1	46	I	D1	66	I	WR
7	O	SO1	27	—	NC	47	I	D2	67	I	PLOAD
8	O	CAS	28	O	EA2	48	I	D3	68	O	NC/DREADY*
9	O	RAS	29	—	NC	49	—	NC	69	I	CLOAD
10	I	CLKSEL	30	O	EA3	50	I	D4	70	I	STRB
11	I	CLKIN	31	O	EA4	51	I	D5	71	—	NC
12	—	GND	32	—	GND	52	—	VDD	72	—	VDD
13	—	GND	33	—	VDD	53	—	VDD	73	—	GND
14	O	WE	34	O	EA5	54	I	D6	74	—	NC
15	I/O	ED0 (LSB)	35	O	EA6	55	I	D7 (MSB)	75	I	BCKI
16	I/O	ED1	36	—	NC	56	O	PC0	76	I	LRCKI
17	I/O	ED2	37	O	EA7	57	I	BIO	77	—	NC
18	I/O	ED3	38	I	TEST0	58	O	OVFA	78	I	SI0
19	I/O	ED4	39	I	TEST1	59	O	OVFM	79	I	SI1
20	I/O	ED5	40	I	TEST2	60	I	RS	80	I	SYNC

*: TMS57002PH ; NC.



78	SI0	SO0	6	INPUT
79	SI1	SO1	7	BCKI ; BIT CLOCK FOR SERIAL INPUT
				BCKO ; BIT CLOCK FOR SERIAL OUTPUT
				BIO ; BRANCH CONTROL
75	BCKI	PC0	26	CLKIN ; MASTER CLOCK
2	BCKO	EMPTY	63	CLKSEL ; CLKIN FREQUENCY SELECT (L ; 512 fs H ; 256 fs)
76	LRCKI			CLOAD ; COUNTING LOAD
5	LRCKO	EA9	42	CS ; CHIP ENABLE FOR PARALLEL PORT
80	SYNC	EA8	41	D0 - 7 ; PARALLEL PORT
11	CLKIN	EA7	37	DREADY ; DATA READY SIGNAL TO HOST CONTROLLER
10	CLKSEL	EA6	35	LRCKI ; RIGHT AND LEFT CHANNEL THRESHOLD CLOCK FOR SERIAL INPUT
1	SYNPOL	EA5	34	LRCKO ; RIGHT AND LEFT CHANNEL THRESHOLD CLOCK FOR SERIAL OUTPUT
		EA4	31	MUTE ; MUTE
60	RS	EA3	30	PLOAD ; PROGRAM LOAD
66	WR	EA2	28	RS ; RESET (L ; RESET H ; NORMAL OPERATION)
65	CS	EA1	26	SI0, 1 ; SERIAL INPUT DATA 0, 1
67	PLOAD	EA0	25	STRB ; DATA STROBE FOR PARALLEL PORT
68	CLOAD	CAS	8	SYNC ; PROGRAM SYNC SIGNAL
64	MUTE	RAS	9	SYNPOL ; SYNC SIGNAL EFFECTIVE EDGE SELECT (L ; DOWN H ; UP)
57	BIO	WE	14	TEST0 - 2 ; FOR TEST
				WR ; RIGHT ENABLE FOR PARALLEL PORT
55	D7	ED7	15	OUTPUT
54	D6	ED6	16	CAS ; COL ADDRESS STROBE FOR OUTER EXTERNAL RAM
51	D5	ED5	17	EA0 - 9 ; OUTER EXTERNAL RAM ADDRESS
50	D4	ED4	18	EMPTY ; COUNTING BUFFER EMPTY
48	D3	ED3	19	OVFA ; ALU OVERFLOW FLAG (OPEN DRAIN OUTPUT)
47	D2	ED2	20	OVFM ; MAC OVERFLOW FLAG (OPEN DRAIN OUTPUT)
46	D1	ED1	23	PC0 ; PROGRAM COUNTER 0
45	D0	ED0	24	RAS ; ROW ADDRESS STROBE FOR OUTER EXTERNAL RAM
				SO0, 1 ; SERIAL OUTPUT DATA 0, 1
70	STRB	OVFA	58	WE ; RIGHT ENABLE FOR OUTER EXTERNAL RAM
		OVFM	59	
38	TEST0			
39	TEST1	DREADY	68	
40	TEST2			

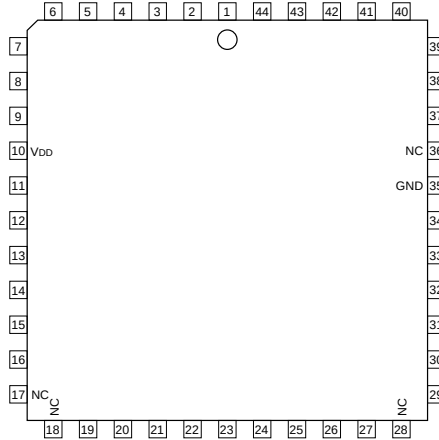
INPUT/OUTPUT

ED0 - 7 ; OUTER EXTERNAL RAM DATA

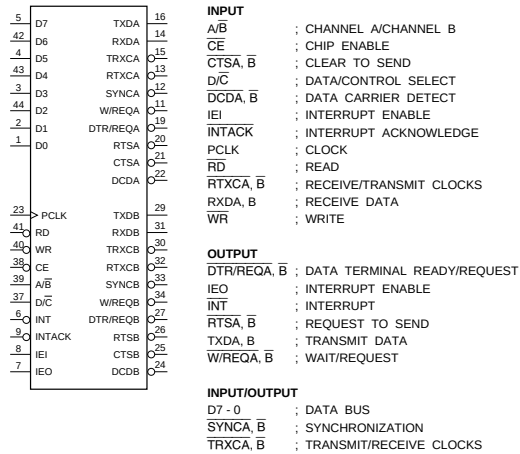
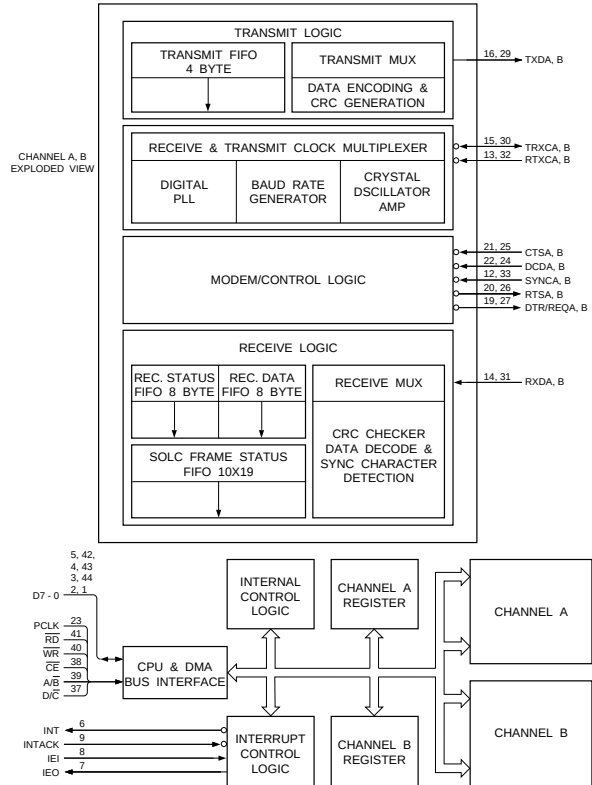
Z8523010VSC (ZILOG)

C-MOS SERIAL COMMUNICATION CONTROLLER

—TOP VIEW—



PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	I/O	D0	12	I/O	SYNCA	23	I	PCLK	34	O	WREQB
2	I/O	D1	13	I	RTXCA	24	I	DCDB	35	—	GND
3	I/O	D3	14	I	RXDA	25	I	CTSB	36	—	NC
4	I/O	D5	15	I/O	TRXCA	26	O	RTSB	37	I	D/C
5	I/O	D7	16	O	TXDA	27	O	DTR/REQB	38	I	CE
6	O	INT	17	—	NC	28	—	NC	39	I	A/B
7	O	IEO	18	—	NC	29	O	TXDB	40	I	WR
8	I	IEI	19	O	DTR/REQA	30	I/O	TRXCB	41	I	RD
9	I	INTACK	20	O	RTSA	31	I	RXDB	42	I/O	D6
10	—	VDD	21	I	CTSA	32	I	RTXCB	43	I/O	D4
11	O	WREQA	22	I	DCDA	33	I/O	SYNCB	44	I/O	D2



Section 5
Block Diagram

Circuit Description

This section describes outline of the main board circuit (APR-34, DEC-102 and DSP-82 boards) of DFP-D3000.

APR-34 Board

The APR-34 board consists mainly of the following blocks.

- 1. Audio input amplifier block
- 2. Audio output amplifier block
- 3. A/D and D/A converter block
- 4. Monitor selector circuit
- 5. External fader circuit
- 6. Digital circuit

1. Audio input amplifier block

- AUX INPUT

The 8-channel signal (excluding the sub-woofer channel) that is input from the AUX INPUT-1 or -2 connector, is sent to the fixed gain differential amplifier (IC200 through IC203) where it is amplified to the reference level (−3 dBu) inside the machine.

This amplifier (8-channel amplifier) is used commonly by the AUX INPUT-1 and the AUX INPUT-2 input signals. Either AUX INPUT-1 or AUX INPUT-2 is selected by a relay (RY200 to RY207) in the input circuit of the amplifier. The sub-woofer channel has 10 dB lower gain than the other channels that are operating at the reference level of −8.2 dBu. However, attenuation level of the sub-woofer channel can be switched so that the sub-woofer channel can be boosted by any of 0, 6, 8 or 10 dB.

- OPTICAL (PEC) INPUT

The amplifier (IC106 to IC113) to which the input signal coming from the OPTICAL (PEC) INPUT-1 and INPUT-2 connector, has the circuit configuration that assures the very high CMRR (common mode rejection ratio). The output signals from the amplifier are sent to the resistor-ladder where amount of attenuation is switched and sent to the inverted amplifier (IC110 to IC113) where phases are matched and small amount of gain is adjusted so that the input signals have the same level as the internal reference level (−3 dBu) of the machine. Since both of the OPTICAL INPUT-1 and the OPTICAL INPUT-2 have the L and R channels respectively , the four channels of the same circuit are used.

- NONSYNC INPUT

The inverted amplifiers (IC100, IC101) of the unbalanced type, are used since this input connector is provided for connection with consumer products. The inverting amplifier has the function to maintain the −3 dBu signal that is the internal reference level inside the machine, regardless of the various input levels, with the use of combination of resistor-ladder and variable amplification gain of the amplifier. The inverted amplifier in the latter stage provides the phase matching and low output impedance to the next circuit.

- MIC INPUT

The IC type SSM-2017P (IC205, IC206) that has the high reputation in the professional audio field, is used which realizes the high CMRR and the high S/N ratio characteristics. The MIC gain is selected using relays (RY210, RY212, RY215, RY211, RY213, RY216). The power switch over to the phantom power (+48 V) is performed by a transistor switch that has a long time constant.

The MIC 1 input circuit has the LINE differential amplifier (IC204) in parallel with it. When the input audio has such large amplitude that the MIC 1 input circuit cannot handle, the MIC 1 input circuit turned off and the LINE differential amplifier used so that the output signal from the LINE differential amplifier is sent to the next circuit.

2. Audio output amplifier block

The audio output amplifier block has the circuit configuration consisting of IC SSM-2142P and the variable gain operational amplifier (IC400 to IC403) which uses relays (RY400 to RY415) to obtain the specified output level (−16, −10 or +4 dBu) from the reference output (−17.1 dBu) of the D/A converter. The IC SSM-2142P (IC404 to IC411) which provides the high precision balanced-type output, is used in the output stage of this block.

The eight channels of this circuit are connected in parallel and are used as the main line circuit of the SYSTEM OUT and the MONITOR OUT output connectors.

3. A/D and D/A converter block

The IC type AK4520A (IC312 to IC316) includes all circuits that are required for the 2-channel A/D converter and the 2-channel D/A converter.

The required external clock signals are the 64 Fs signal that is locked to Fs (sampling frequency = 44.1 kHz), and the unlocked 256 Fs signal. These two external lock signals are required to be input as the master clock.

4. Monitor selector circuit

Any desired signal of the following eleven types of signal can be added each other using the monitor selector circuit (IC321 to IC323 and IC326 to IC330). The selected and the added signals are sent to the 2-channel summing amplifiers (HPL, HPR).

- 8 bus (i.e.: L, LC, C, RC, R, SW, SL, SR) signals of the DSP output
- Lt signal
- Rt signal
- Mic 2 signal

The respective signals are connected so that any signal can be turned on or off by the analog switch μPD5201G (IC321 to IC323). All of the control lines (HS0 to HS23) are connected to the I/O port CXD1095BQ (IC420, IC425) output and are controlled from the DSP-82 board.

5. External fader circuit

DC 10.0 V is supplied to the external fader from this machine in accordance with the specifications. A fader that is actually connected, has resistance of 100 kΩ (B). The 15 V output of the DC-to-DC converter (CP101) is accurately adjusted to 15 V which is divided by resistors of 1.5 kΩ (0.1%) to obtain 10.0 V. The analog input (AF signal) to the A/D converter IC TC35083F (IC422) is voltage-shifted from the range of 0 to 10 V to the range of 0 to 5.0 V by a resistor-divider network before it is input to the A/D converter.

Output from the A/D converter is the 8-bit (maximum 10-bit) data which is connected to the CPU bus, and sends various information to CPU when it is necessary.

6. Digital circuit

The ICs (IC413 to IC417) and I/O port CXD1095BQ (IC420, IC425) are used as the buffer and interface in the digital circuit. The IC413 to IC417 that are used as buffer, connects the signals that are synchronized to the CPU bus clock, the A/D conversion clock and the D/A conversion clock systems, to the DSP-82 board. The I/O port CXD1095BQ (IC420, IC425) that are used as interface, switches the analog signals using relays and the analog switches.

DEC-102 Board

The DEC-102 board consists of the following blocks.

- 1. RF IF block
- 2. FG PLL block
- 3. ECC block
- 4. TBC block
- 5. ATRAC block

1. RF IF block

The SDDS playback data that is supplied from the DFP-R3000 through the READER 1 and READER 2 connectors, is converted from serial data to the 10-bit parallel data by the CN-1582 board, and is sent to the DEC-102 board. This data is separated to the respective RF data, V sync data, H sync data, V lock data and FG signal of the S-ch and the P-ch respectively by the film block buffer (IC106), and is output. At the same time, the reader diag data is stored inside IC106 as the read register of CPU.

Because the input S-ch and P-ch data has unknown phase and jitter, a jitter buffer is configured by PLL and memory using IC106, IC122 and IC123 which stabilizes the data.

The input V sync signal of the S-ch and P-ch are locked by PLL so that the stabilized V sync signal is generated.

Using the stabilized V sync signal, phase of the S-ch track and the P-ch track data is adjusted so that these signals are in phase, and are output at the rate that will not cause any erroneous operation.

The data receives de-shuffling then by the RF I/F (IC202) and is sent to the ECC block.

2. FG PLL block

The clock signal of the Fs system is generated from FG signal by PLL circuit of IC120. This PLL is controlled by CPU so that the clock rate which the PLL generates. The generated clock signal is used to keep the data rate of TBC block at a constant rate.

3. ECC block

The ECC decoding is performed by the ECC decoder (IC300). The ECC control (IC301) controls this decoding and at the same time, de-scrambles and converts the data to the ATRAC data.

Numbers of error that is obtained as the result of correction, are counted by IC120 and stored in the read register of CPU.

4. TBC block

In the TBC block, the ECC decode data that is locked to the RF signal clock, is converted to be clocked to the clock rate of the Fs system.

The TBC (IC402) controls FIFO (IC401) in order to control writing and reading of the ATRAC data in units of block so that the ATRAC data is converted from clock of the RFCK signal to that of the 256 Fs signal.

5. ATRAC decode block

The ATRAC decode block controls the ATRAC decoding and the FIFO that is used for system delay. The same circuit is used in both S-ch and the P-ch tracks. The ATRAC data that is supplied from the TBC block is separated to the S-ch data and to the P-ch data for processing.

The signal flow of the processing is described using the S-ch only. The S-ch data is sent to the FIFO (IC501 to IC505: S-ch, IC601 to IC605: P-ch) where it is delayed as much as the system delay time, decoded by the ATRAC decoder (IC703, IC704, IC707, IC708: S-ch/IC701, IC702, IC705, IC706: P-ch) so that the respective channel signals of SW, Rc, R, SR, Lmix and +CH (C, Lc, L, SL, Rmix, SW’ and +CH: P-ch) are output. These controls are performed by the ATRAC control (IC506: S-ch/IC606: P-ch). The signal flow of the P-ch channel is the same as that of the S-ch.

DSP-82 Board

The DSP-82 board performs control over the entire system of the DFP-D3000 and the digital signal processing. The DSP-82 board consists of the following blocks.

- 1. CPU block
- 2. External I/O control block
- 3. DSP block

1. CPU block

The main CPU (IC202) is the Intel I960 and OS is pSOS. The CPU block consists of the flash ROM (IC205, IC206), DRAM (IC203, IC204, IC209, IC210), SRAM (IC404, IC450) and the interrupt controller (IC302). The timing adjustment such as arbitration is performed by IC CXD8980 (IC212). When the main power is turned on, all of the OS and the programs stored in the flash ROM are developed in DRAM to be operated on the DRAM. The information such setup data and the preset data that must be stored, are saved in the SRAM which is backed up by battery. The interrupt controller (IC302) handles the ATRAC that is supplied from the DEC-102 board, the ECC interrupt signal and the interrupt signal of the RS-232C communication.

2. External I/O control block

RS-232C, AUTOMATION and the signal supplied from other boards are handled as the external I/O signal. RS-232C sends and receives signals with external personal computer, and is connected to the CPU bus with a single-chip controller (IC406, Z8532010). The AUTOMATION and the signals supplied from other boards are all controlled by the I/O port (IC405, IC418; CXD1095). CPU performs control by writing and reading data to and from this I/O port with periodic or external interrupt.

3. DSP Block

The DSP block consists of the SDDS block and the effect block.

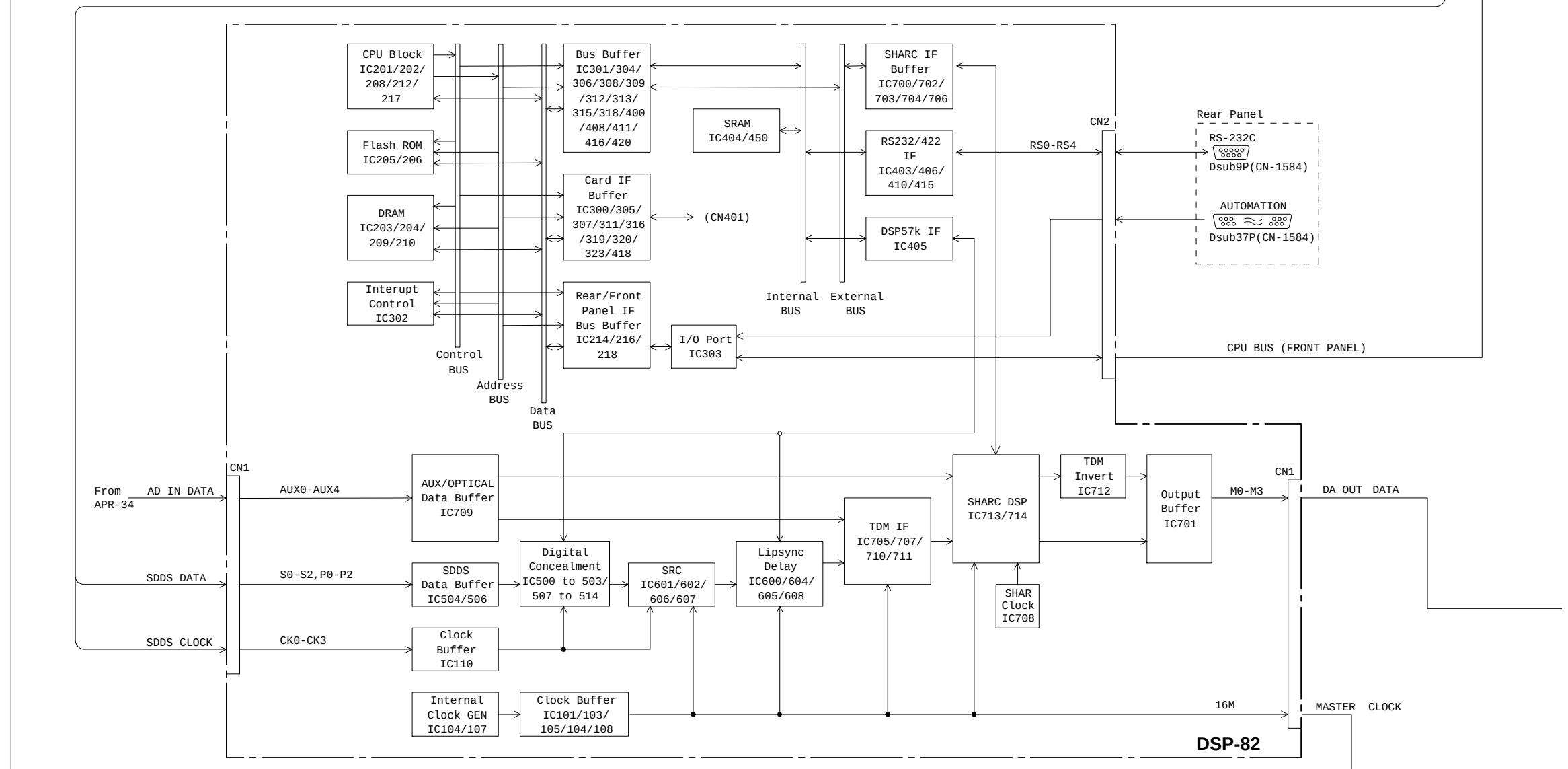
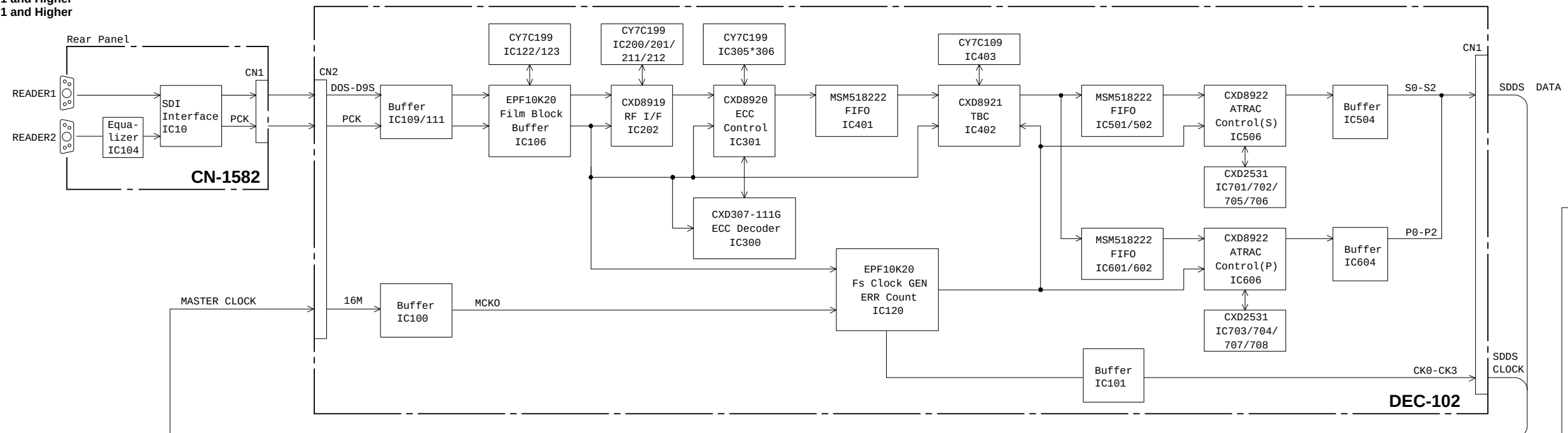
• SDDS Block

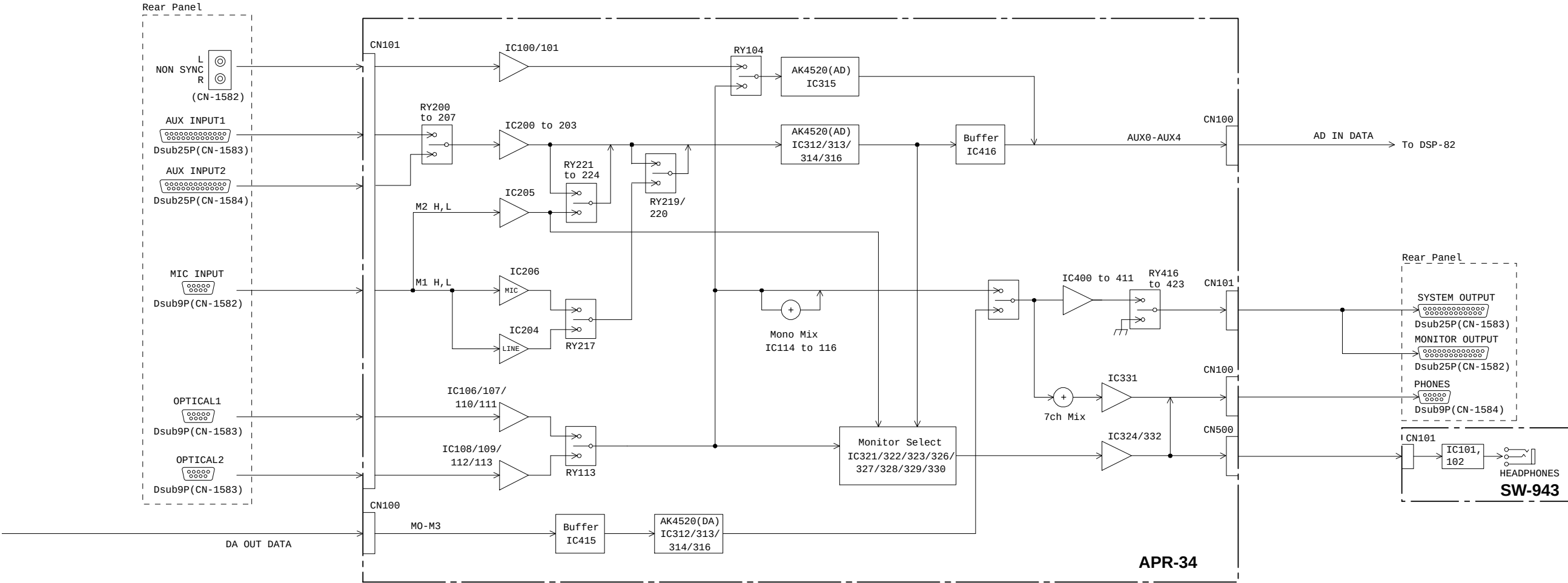
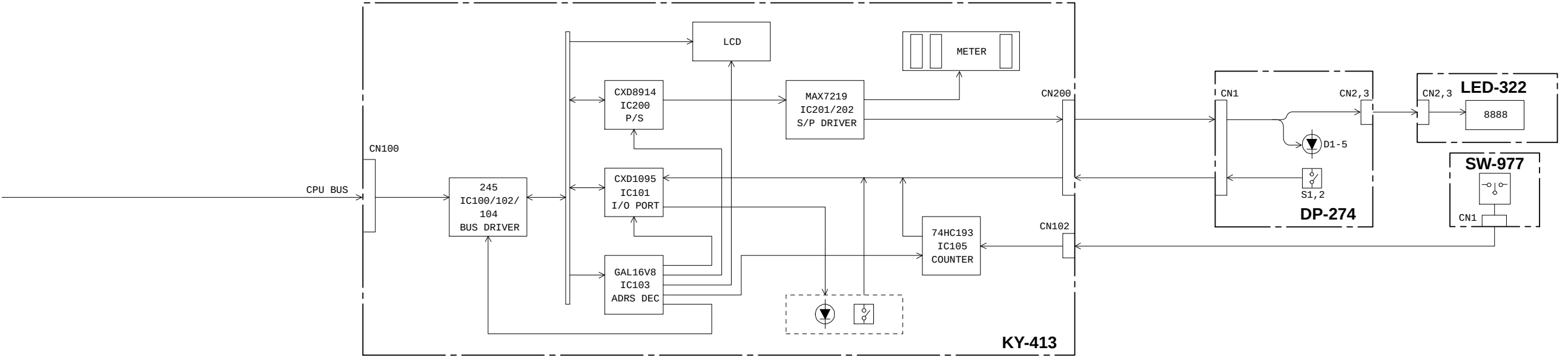
The SDDS data that is supplied from the DEC-102 board, is processed by the SDDS block using DSPs (IC500 to IC503 and IC507 to IC514, TMS57000). The SDDS data consists of three pairs of the P-ch side and the S-ch side respectively (totaling 6 signals). The lip sync delay is added to these signals and the audio timing is adjusted to be in phase with the video signal in this block. The concealment signals are then decoded so that the two systems of the SDDS signal (8 channels) are generated. These signals are selected in accordance with the error status of ECC and receive the digital concealment processing. The signal of the channel in which error occurs, is compensated by the decoded concealment signal. After the digital concealment processing, the signal which has been synchronized with projector, is converted so that is locked to the internal crystal oscillation. When any errors do not occur, the concealment signal processing does not take place and the original 8-channel signal is selected. The selected signal is converted of its clock rate to that generated by the internal crystal. The selected signal is then sent to the effect block.

• Effect Block

The effect block performs selection of input signal and the various effect signal processing. The effect processing is performed by the DSP SHARC (IC713, IC714; ADSP-61020) manufactured by Analog Devices Inc. In addition to the SDDS signals, the PEC (analog audio output of projector) that has already been A/D converted by the APR-34 board, AUX signal and other signals are input to DSP. (The input signals such as MIC and NONSYNC are interrupted into the AUX and PEC signals with analog signal level.) DSP selects the desired signal from the various input signals in accordance with the source select status. When the SDDS signal is selected as the source, or when data recovery is not possible even with the digital concealment due to the error status of the SDDS signal, the signal that is assigned to the analog concealment, is selected. The selected input signal receives the various signal processing (matrix, EQ, fader, etc.,) and is output as the 8-channel signal to the APR-34 board.

DFP-D3000 (UC) : S/N 10001 and Higher
DFP-D3000(J) : S/N 30001 and Higher
DFP-D3000 (CE) : S/N 40001 and Higher





Overall

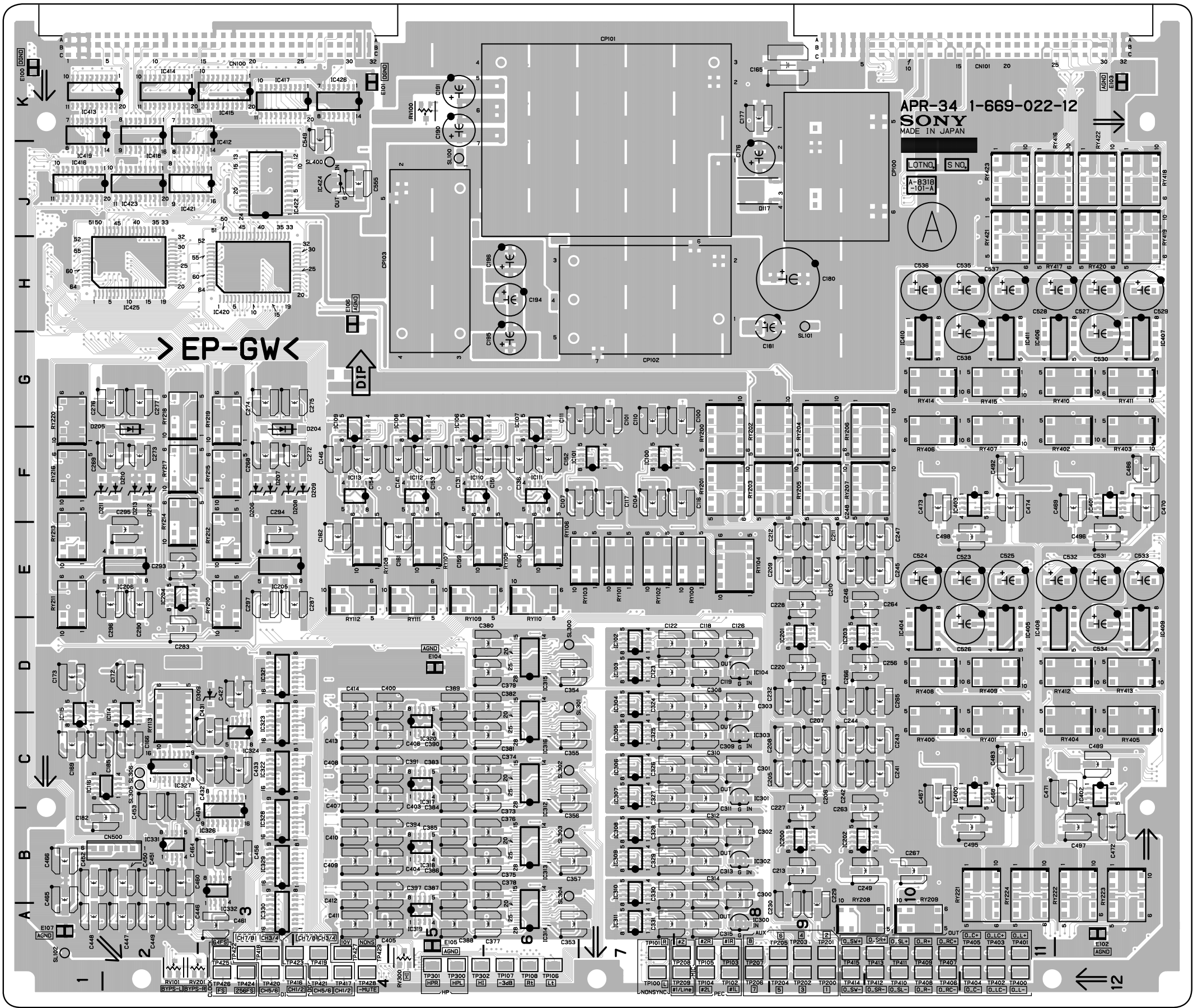


Section 6

Board Layouts

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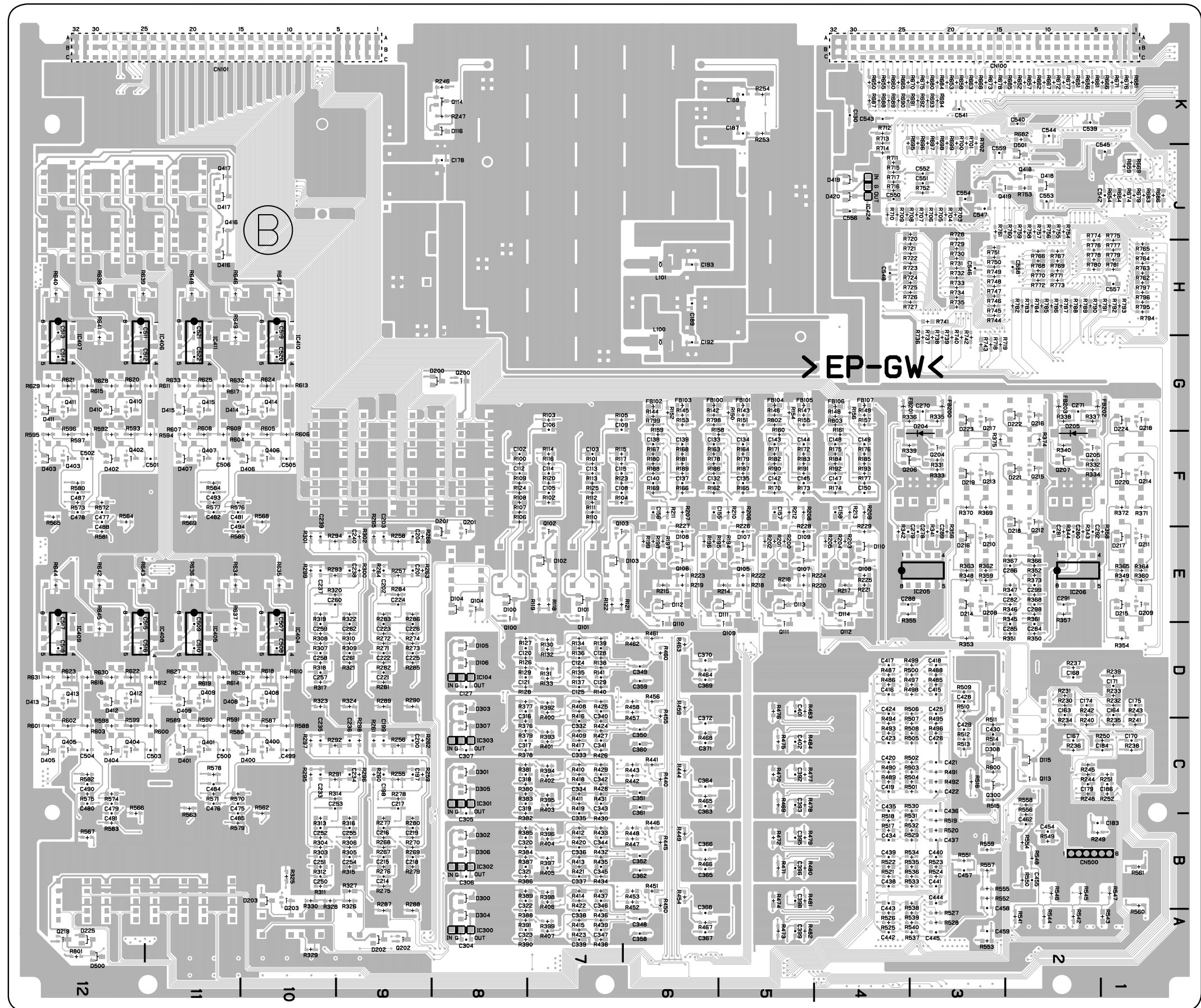
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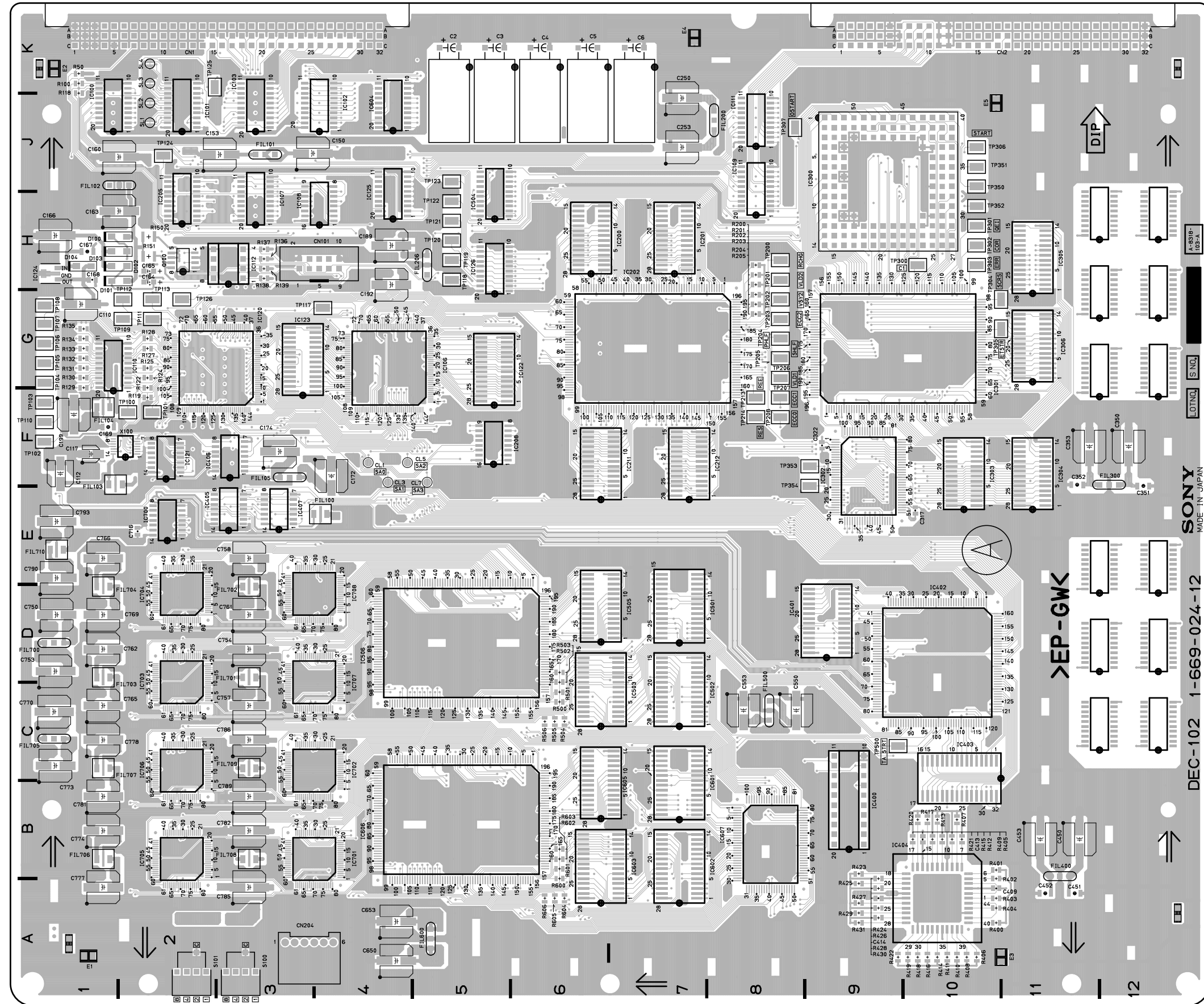
*: B SIDE

CN100	K3	E106	H4	Q104	*E8	RY219	G3
CN101	K11	E107	A1	Q105	*E5	RY220	G1
CN500	B2			Q106	*E6	RY221	B11
CP100	J9	IC100	F7	Q107	*E5	RY222	B12
CP101	K7	IC101	F7	Q108	*E4	RY223	B12
CP102	H7	IC102	D7	Q109	*D5	RY224	B11
CP103	H5	IC103	D7	Q110	*D6	RY400	C10
		IC104	D8	Q111	*D5	RY401	C11
D100	*E8	IC106	F6	Q112	*D4	RY402	F12
D101	*E7	IC107	F6	Q113	*C2	RY403	F12
D102	*E7	IC108	F5	Q114	*K8	RY404	C12
D103	*E7	IC109	F4	Q200	*G8	RY405	C12
D104	*E8	IC110	F5	Q201	*A8	RY406	F10
D105	*D8	IC111	F6	Q202	*A9	RY407	F11
D106	*D8	IC112	F5	Q203	*B10	RY408	D10
D107	*E5	IC113	F4	Q204	*F3	RY409	D11
D108	*E6	IC114	C2	Q205	*F2	RY410	G12
D109	*E5	IC115	C1	Q206	*F4	RY411	G12
D110	*E4	IC116	C2	Q207	*F2	RY412	D12
D111	*E5	IC200	B9	Q208	*E3	RY413	D12
D112	*E6	IC201	D9	Q209	*E1	RY414	G10
D113	*E5	IC202	B10	Q210	*E3	RY415	G11
D114	*E4	IC203	D10	Q211	*E1	RY416	J11
D115	*C2	IC204	E2	Q212	*F2	RY417	H11
D116	*K8	IC205	E4	Q213	*F3	RY418	J12
D117	J8	IC206	E2	Q214	*F1	RY419	H12
D200	*G8	IC300	A8	Q215	*F2	RY420	H12
D201	*E8	IC301	C8	Q216	*G2	RY421	H11
D202	*A9	IC302	B8	Q217	*G3	RY422	J12
D203	*B10	IC303	C8	Q218	*G1	RY423	J11
D204	F3	IC304	D7	Q219	*A12		
D205	F2	IC305	C7	Q300	*C3	TP100	A7
D206	F3	IC306	C7	Q400	*C10	TP101	A7
D207	F3	IC307	C7	Q401	*C11	TP102	A8
D208	F3	IC308	B7	Q402	*F12	TP103	A8
D209	F4	IC309	B7	Q403	*F12	TP104	A8
D210	F2	IC310	B7	Q404	*C12	TP105	A8
D211	F1	IC311	A7	Q405	*C12	TP106	A6
D212	F2	IC312	C6	Q406	*F10	TP107	A5
D213	F2	IC313	B6	Q407	*F11	TP108	A6
D214	*E3	IC314	A6	Q408	*D10	TP200	A9
D215	*E1	IC315	D6	Q409	*D11	TP201	A9
D216	*E3	IC316	C6	Q410	*G12	TP202	A9
D217	*E1	IC317	C5	Q411	*G12	TP203	A9
D218	*F2	IC318	B5	Q412	*D12	TP204	A9
D219	*F3	IC319	A5	Q413	*D12	TP205	A9
D220	*F1	IC320	C5	Q414	*G10	TP206	A8
D221	*F2	IC321	D4	Q415	*G11	TP207	A8
D222	*G2	IC322	C4	Q416	*J11	TP208	A8
D223	*G3	IC323	C4	Q417	*J11	TP209	A8
D224	*G1	IC324	C3	Q418	*J2	TP300	A5
D225	*A12	IC326	C3	Q419	*J2	TP301	A5
D300	*B8	IC327	C2			TP302	A5
D301	*C8	IC328	B4	RV100	K5	TP400	A11
D302	*B8	IC329	B4	RV101	A2	TP401	A11
D303	*D8	IC330	A4	RV102	A2	TP402	A11
D304	*A8	IC331	B2	RV300	A4	TP403	A11
D305	*C8	IC332	B3	RY100	E8	TP404	A11
D306	*B8	IC400	C11	RY101	E7	TP405	A11
D307	*C8	IC401	F12	RY102	E7	TP406	A10
D308	*C3	IC402	C12	RY103	E7	TP407	A10
D309	*C3	IC403	F11	RY104	E8	TP408	A10
D400	*C10	IC404	E10	RY105	E6	TP409	A10
D401	*C11	IC405	E11	RY106	E6	TP410	A10
D402	*F12	IC406	H11	RY107	E5	TP411	A10
D403	*F12	IC407	H12	RY108	E4	TP412	A10
D404	*C12	IC408	E11	RY109	E5	TP413	A10
D405	*C12	IC409	E12	RY110	E6	TP414	A9
D406	*F10	IC410	H10	RY111	E5	TP415	A9
D407	*F11	IC411	H11	RY112	E4	TP416	A3
D408	*D10	IC412	K3	RY113	C2	TP417	A4
D409	*D11	IC413	K2	RY200	F8	TP418	A3
D410	*G12	IC414	K2	RY201	F8	TP419	A3
D411	*G12	IC415	K3	RY202	F9	TP420	A3
D412	*D12	IC416	J1	RY203	F9	TP421	A3
D413	*D12	IC417	K4	RY204	F9	TP422	A2
D414	*G10	IC418	K2	RY205	F9	TP423	A3
D415	*G11	IC419	K1	RY206	F10	TP424	A2
D416	*H11	IC420	H3	RY207	F10	TP425	A2
D417	*J11	IC421	J3	RY208	A9	TP426	A2
D418	*J2	IC422	J3	RY209	A10	TP427	A4
D419	*J4	IC423	J2	RY210	E3	TP428	A4
D420	*J4	IC424	J4	RY211	E1		
		IC425	H2	RY212	E3		
E100	K1	IC426	K4	RY213	E1		
E101	K4			RY214	E2		
E102	A12	Q100	*E8	RY215	F3		
E103	K12	Q101	*E7	RY216	F1		
E104	D5	Q102	*E7	RY217	F2		
E105	A4	Q103	*E7	RY218	G2		

DFP-D3000 (UC) : S/N 10001 and Higher
DFP-D3000 (J) : S/N 30001 and Higher
DFP-D3000 (CE) : S/N 40001 and Higher

APR-34 -A SIDE-
1-669-022-11, 12

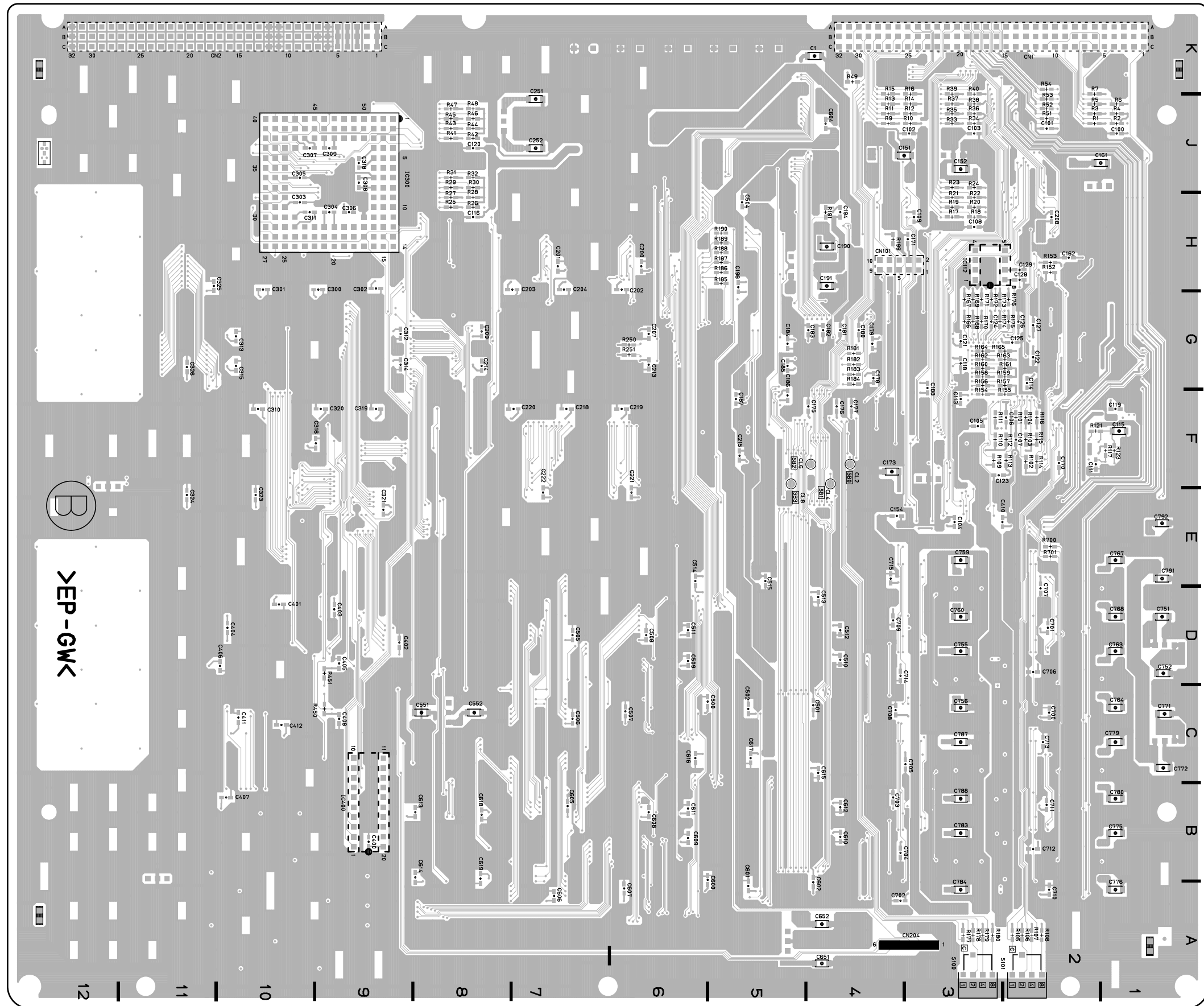




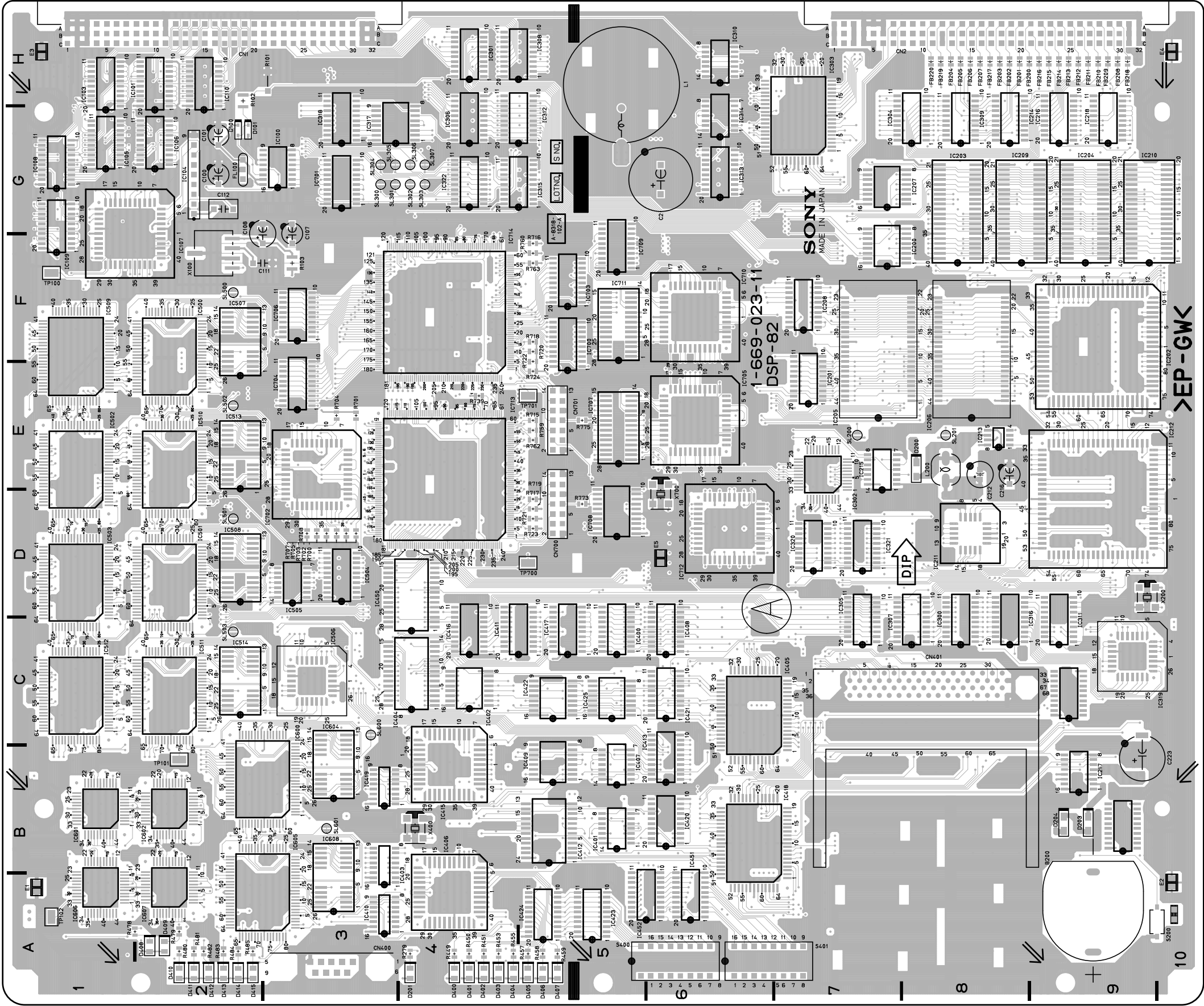
DFP-D3000 (UC) : S/N 10001 and Higher
DFP-D3000 (J) : S/N 30001 and Higher
DFP-D3000 (CE) : S/N 40001 and Higher

DEC-102 (1-669-024-12)

CN1	K3	TP108	G1
CN2	K10	TP109	G2
CN204	A3	TP110	F1
		TP111	G2
D100	H2	TP112	G2
D101	H2	TP113	G2
D102	H2	TP117	G4
D103	H2	TP118	H5
D104	H1	TP119	H5
		TP120	H5
E1	A1	TP121	H5
E2	K1	TP122	H5
E3	A10	TP123	J5
E4	K7	TP124	J2
E5	J10	TP125	K2
		TP126	G2
IC100	J2	TP200	H8
IC101	J2	TP201	H8
IC102	J4	TP202	G8
IC103	J3	TP203	G8
IC106	G4	TP204	G8
IC107	H3	TP205	G8
IC108	H4	TP206	G8
IC109	H8	TP207	F8
IC110	F2	TP208	F8
IC111	J8	TP213	F8
IC112	H3	TP214	F8
IC120	G2	TP300	H10
IC121	F2	TP301	H10
IC122	F5	TP302	H10
IC123	F4	TP303	H10
IC124	H1	TP304	G10
IC125	H4	TP305	G10
IC126	G5	TP306	J10
IC200	H6	TP307	J8
IC201	H7	TP350	J10
IC202	G7	TP351	J10
IC205	H2	TP352	H10
IC208	F5	TP353	F9
IC211	E7	TP354	E9
IC212	E7	TP500	C9
IC300	J9		
IC301	G9	X100	F2
IC302	F9		
IC303	E10		
IC304	E11		
IC305	G11		
IC306	G11		
IC400	B9		
IC401	D9		
IC402	D10		
IC403	C10		
IC404	A10		
IC405	E3		
IC406	F3		
IC407	E3		
IC501	D7		
IC502	C7		
IC503	C7		
IC504	H5		
IC505	D7		
IC506	D5		
IC601	B7		
IC602	A7		
IC603	A7		
IC604	J4		
IC605	B7		
IC606	B5		
IC607	B8		
IC700	E2		
IC701	B3		
IC702	C3		
IC703	C2		
IC704	D2		
IC705	B2		
IC706	C2		
IC707	C3		
IC708	D3		
Q100	H2		
S100	A3		
S101	A2		
TP100	F2		
TP101	F2		
TP102	F1		
TP103	F1		
TP104	G1		
TP105	G1		
TP106	G1		
TP107	G1		



DEC-102 -B SIDE-
1-669-024-12

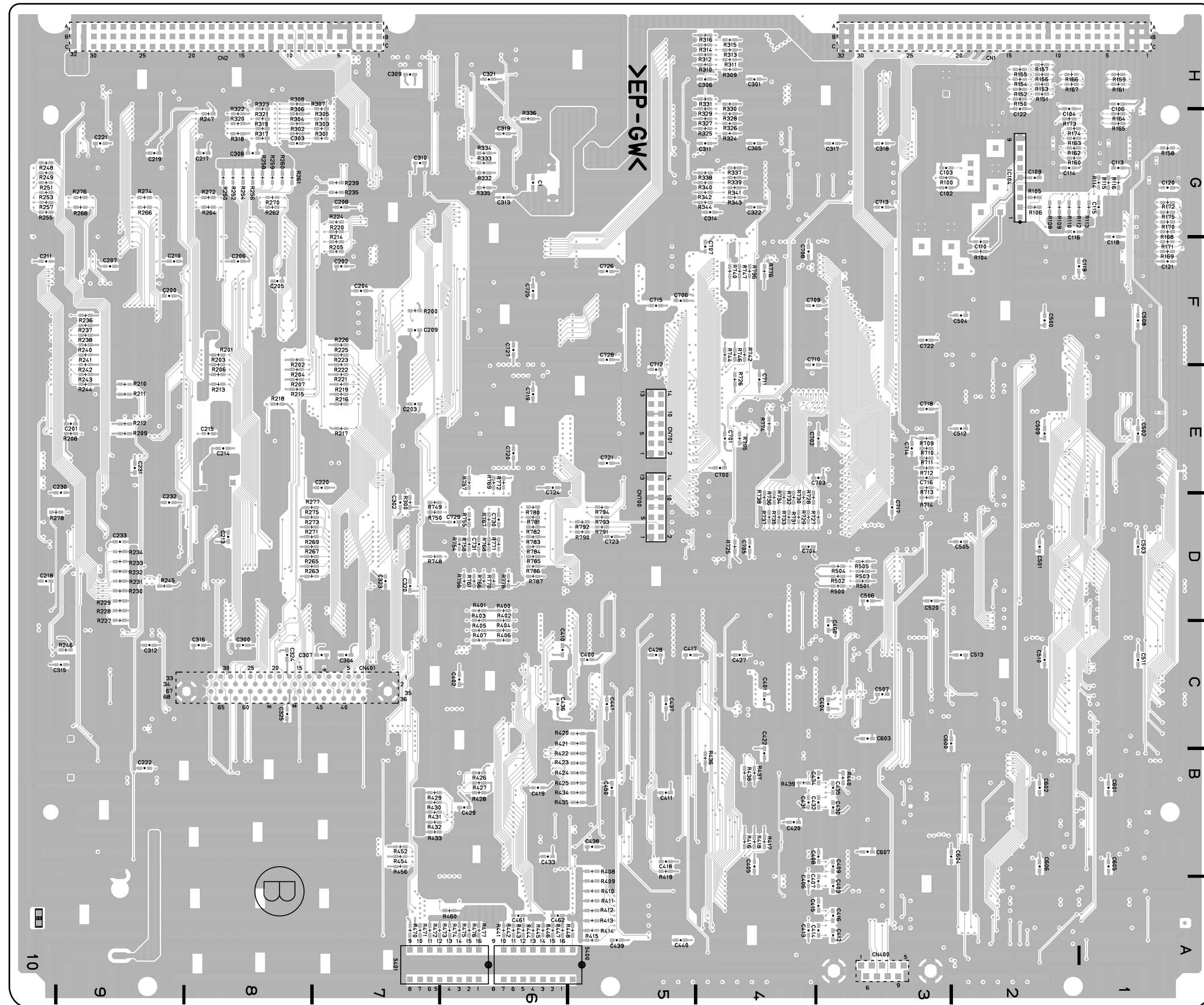


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DFP-D3000 (J) : S/N 30001 and Higher
DFP-D3000 (CE) : S/N 40001 and Higher

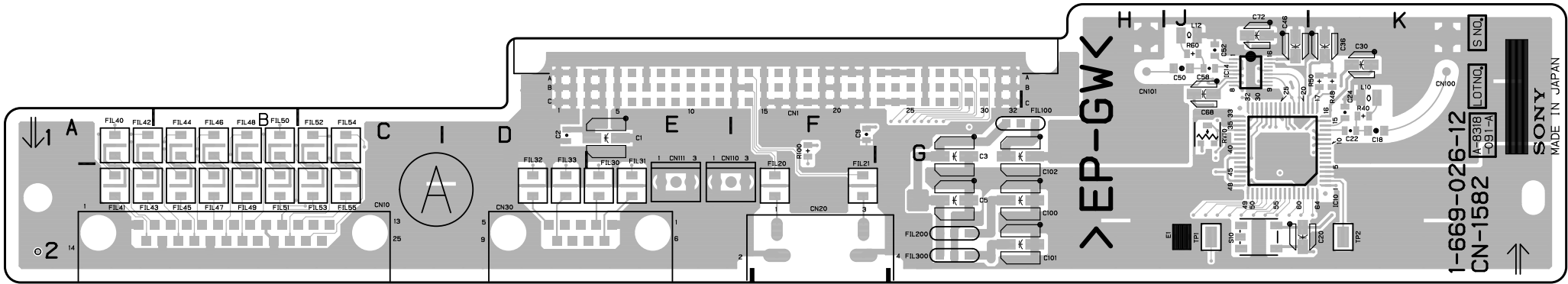
DSP-82 -A SIDE-
1-669-023-11

DSP-82 (1-669-023-11)

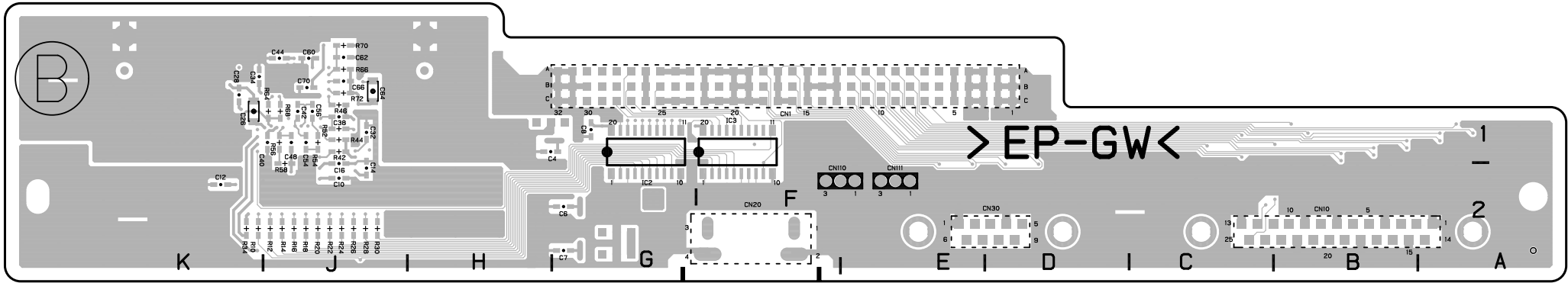
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		IC402	C4
		IC403	A3
CN1	H2	IC404	C4
CN2	H8	IC405	C6
CN401	C8	IC406	A4
CN700	D5	IC407	B5
CN701	E5	IC408	C6
		IC409	B5
D100	G2	IC410	A3
D101	G2	IC411	C5
D200	E8	IC412	B5
D201	A4	IC413	B6
D203	B9	IC415	B4
D204	B9	IC416	C4
D400	A4	IC417	C5
D401	A4	IC418	B6
D402	A4	IC419	B3
D403	A4	IC420	B6
D404	A4	IC421	C6
D405	A5	IC422	C5
D406	A5	IC423	A5
D407	A5	IC424	A5
D408	A2	IC425	C5
D409	A2	IC450	C4
D410	A2	IC451	A6
D411	A2	IC452	A6
D412	A2	IC500	F2
D413	A2	IC501	D2
D414	A2	IC502	E1
D415	A2	IC503	D1
		IC504	D3
E1	A1	IC505	D3
E2	A10	IC506	C3
E3	H1	IC507	E2
E4	H10	IC508	D2
E5	D6	IC509	F1
		IC510	E2
IC100	G3	IC511	C2
IC101	G2	IC512	C1
IC103	G1	IC513	E2
IC104	G2	IC514	C2
IC105	G1	IC600	B2
IC106	G2	IC601	B1
IC107	F1	IC602	B2
IC108	G1	IC604	B3
IC109	F1	IC605	A2
IC110	G2	IC606	A1
IC200	F8	IC607	A2
IC201	E7	IC608	A3
IC202	F9	IC700	E5
IC203	F8	IC701	G3
IC204	F9	IC702	E3
IC205	F7	IC703	F5
IC206	F8	IC704	E3
IC207	G8	IC705	E6
IC208	F7	IC706	F3
IC209	F9	IC707	E5
IC210	F10	IC708	D5
IC211	D8	IC709	F5
IC212	D9	IC710	F6
IC213	E8	IC711	F5
IC214	G8	IC712	D6
IC215	E7	IC713	E4
IC216	G9	IC714	F4
IC217	B9		
IC218	G9	S200	A9
IC300	C8	S400	A6
IC301	H4	S401	A6
IC302	E7		
IC303	G7	TP100	F1
IC304	G8	TP101	B2
IC305	C7	TP102	A1
IC306	G4	TP700	D5
IC307	C8	TP701	E5
IC308	H5		
IC309	G8	X100	F2
IC310	H6	X200	D9
IC311	C9	X400	B4
IC312	G5	X700	D6
IC313	G6		
IC314	G6		
IC315	G5		
IC316	C8		
IC317	G4		
IC318	G3		
IC319	C9		
IC320	D7		
IC321	D7		
IC322	G4		



DSP-82 -B SIDE-
1-669-023-11

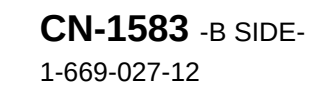


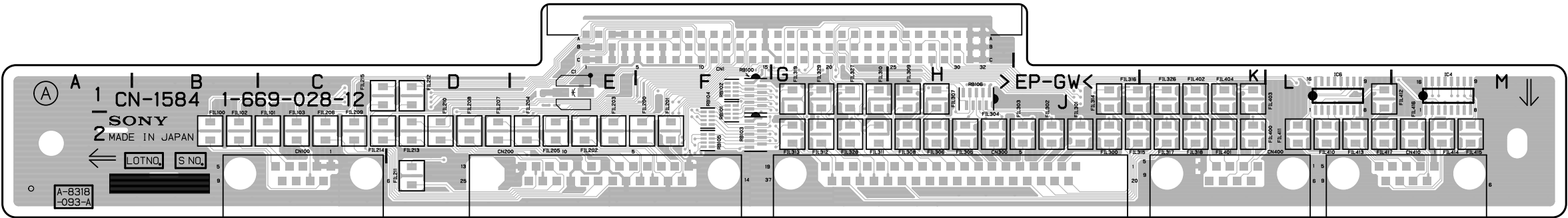
CN-1582 -A SIDE-
1-669-026-12



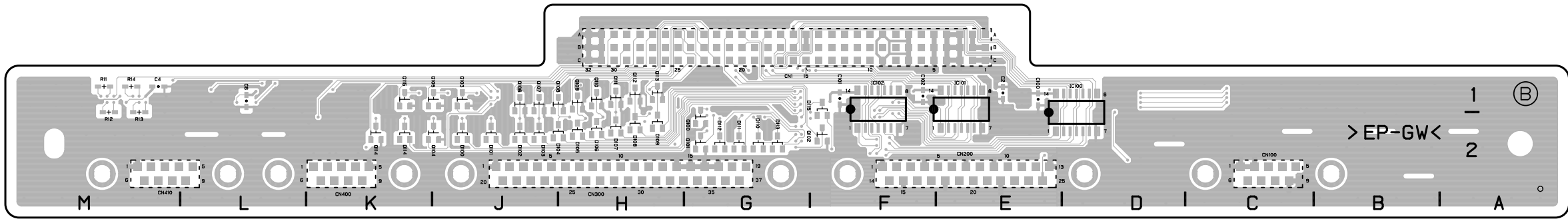
DFP-D3000 (UC) : S/N 10001 and Higher
DFP-D3000 (J) : S/N 30001 and Higher
DFP-D3000 (CE) : S/N 40001 and Higher

CN-1582 -B SIDE-
1-669-026-12



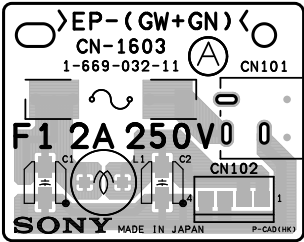


CN-1584 -A SIDE-
1-669-028-12

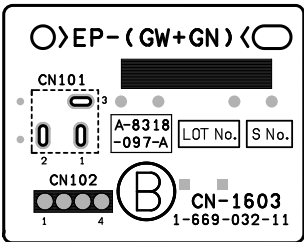


DFP-D3000 (UC) : S/N 10001 and Higher
DFP-D3000 (J) : S/N 30001 and Higher
DFP-D3000 (CE) : S/N 40001 and Higher

CN-1584 -B SIDE-
1-669-028-12

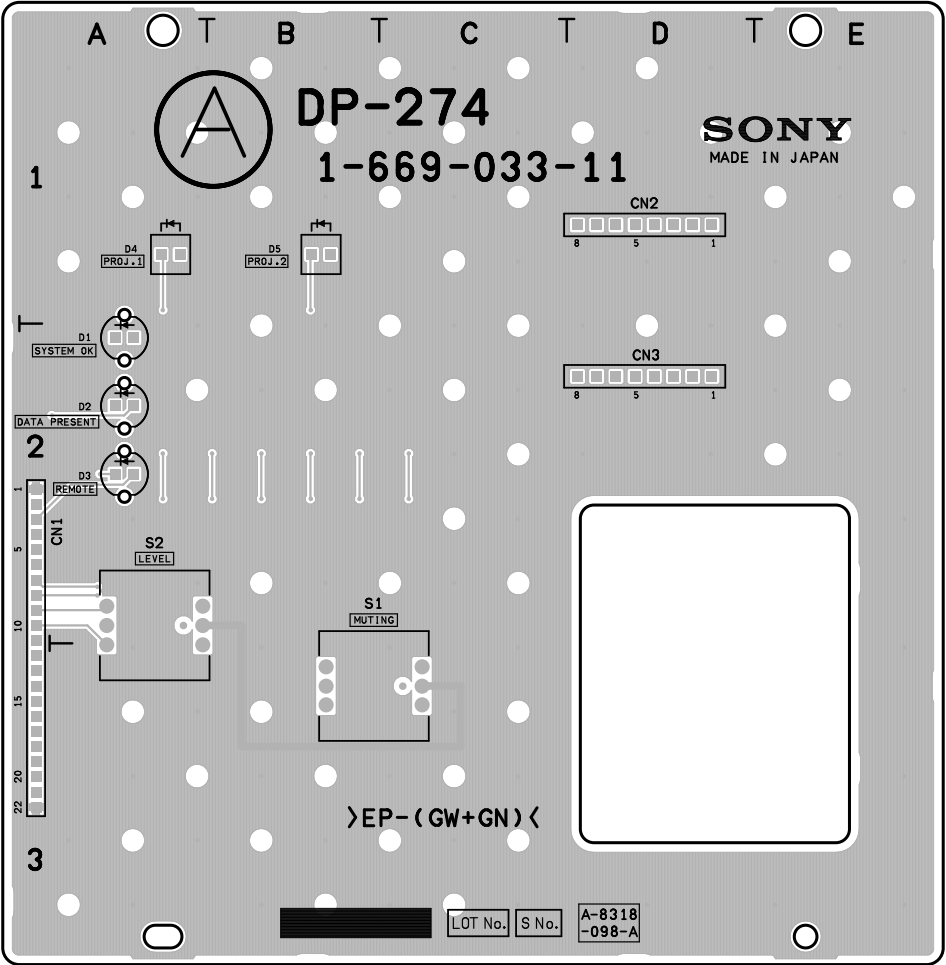


CN-1603 -A SIDE-
1-669-032-11

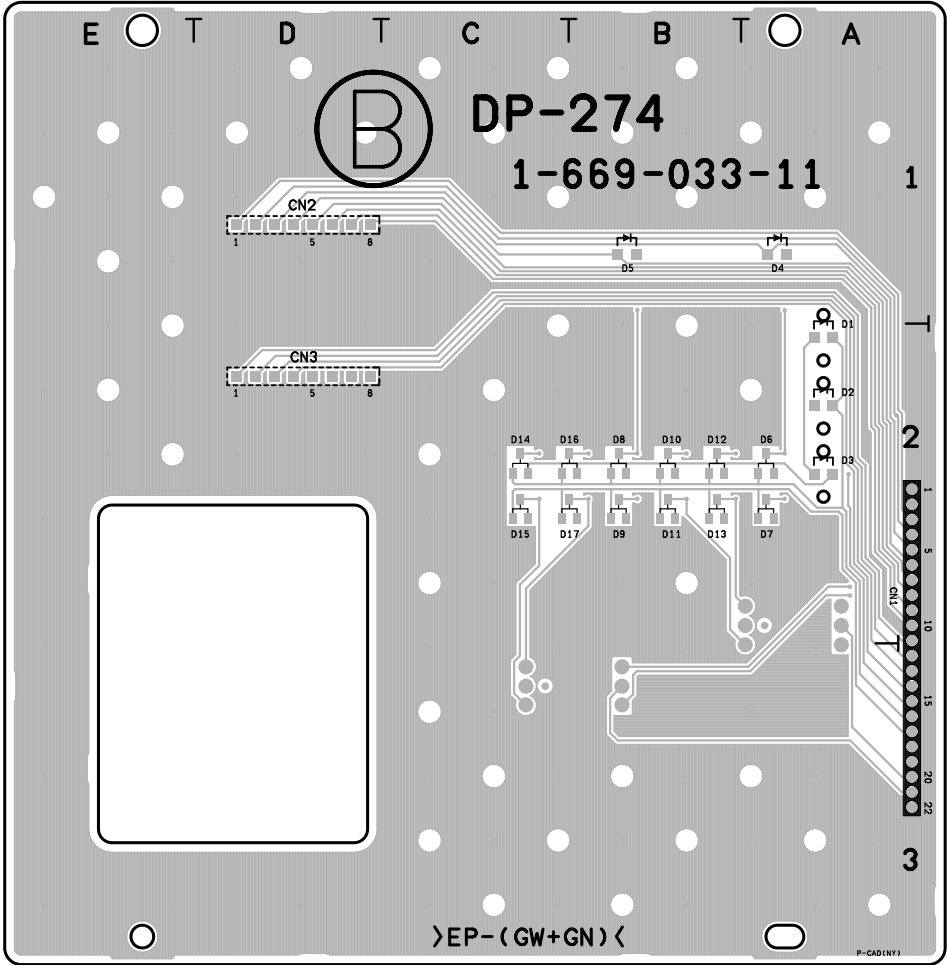


CN-1603 -B SIDE-
1-669-032-11

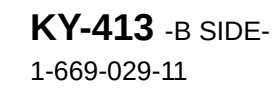
DFP-D3000 (UC) : S/N 10001 and Higher
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DFP-D3000 (CE) : S/N 40001 and Higher

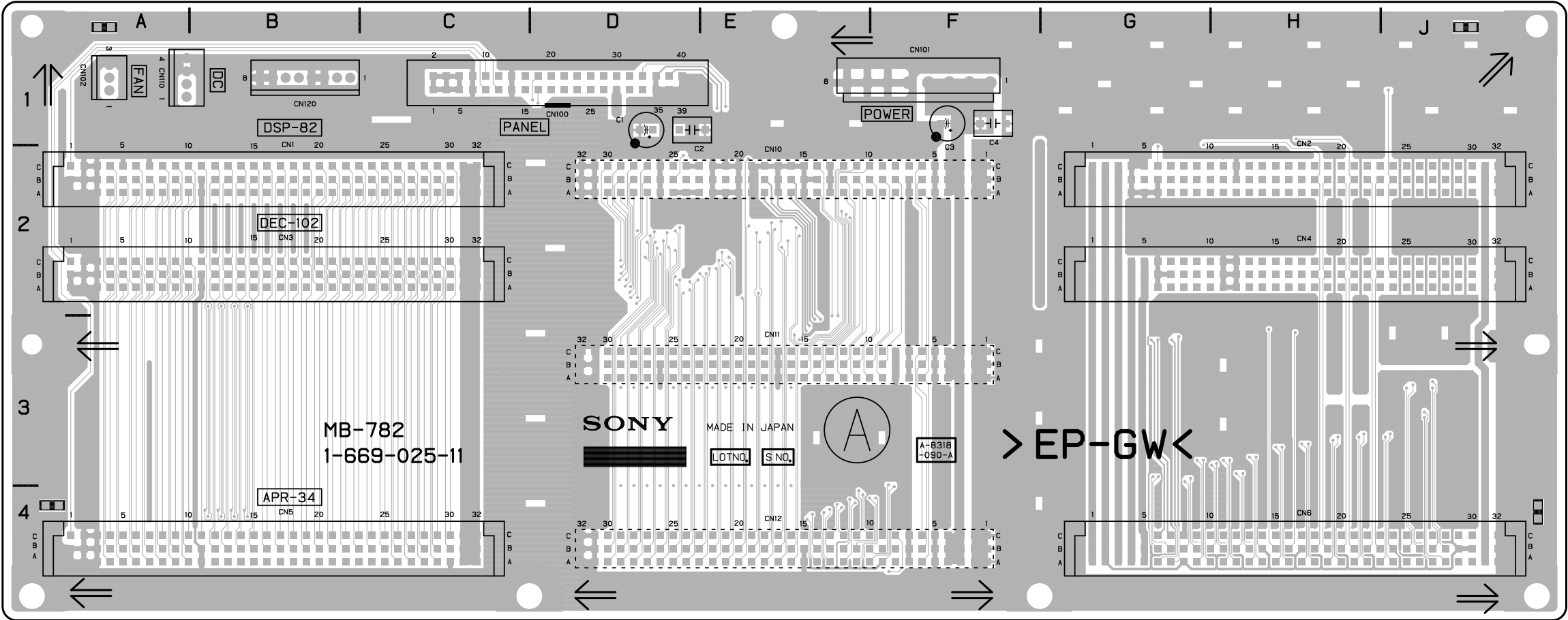


DP-274 -A SIDE-
1-669-033-11



DP-274 -B SIDE-
1-669-033-11



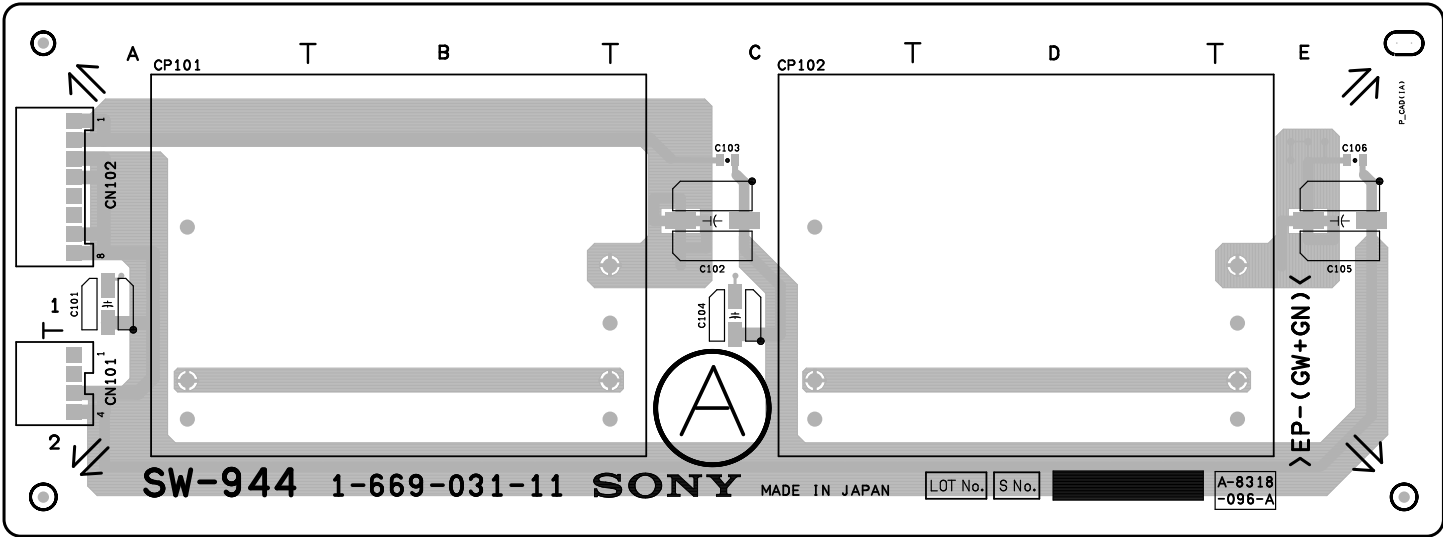


DFP-D3000 (UC) : S/N 10001 and Higher
DFP-D3000 (J) : S/N 30001 and Higher
DFP-D3000 (CE) : S/N 40001 and Higher

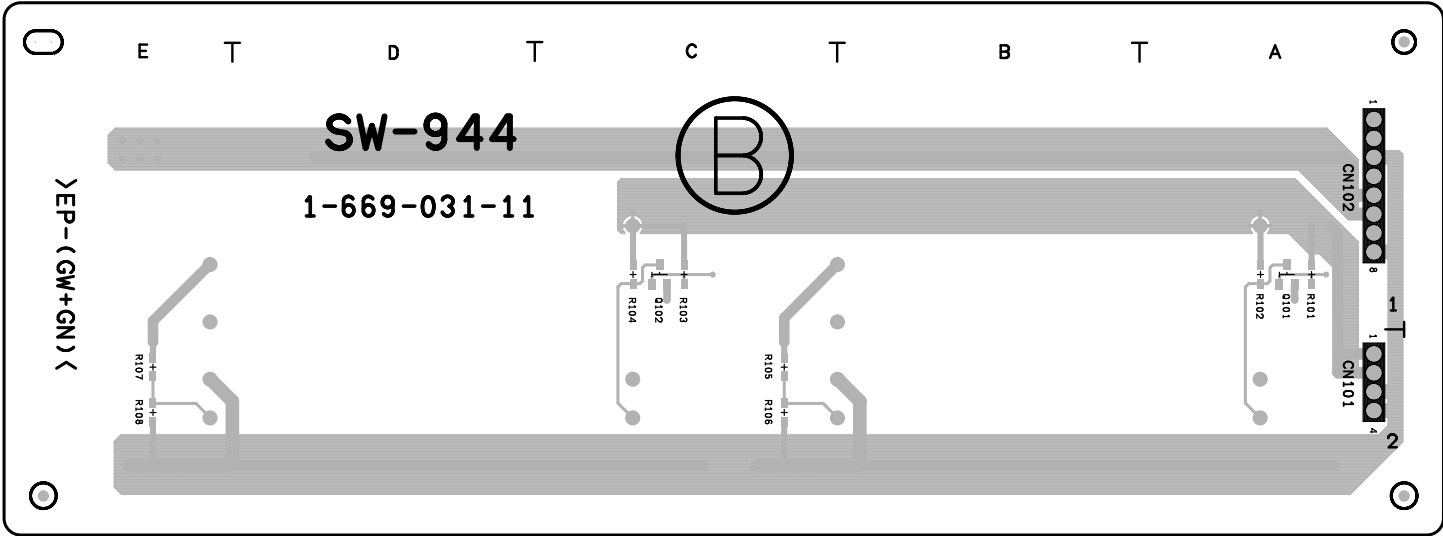
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1-669-025-11



1-669-025-11

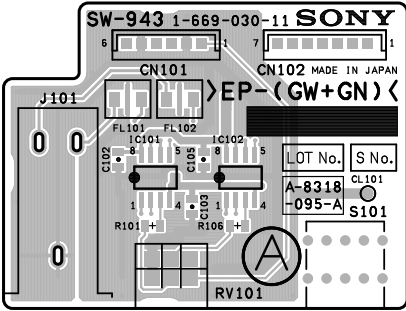


SW-944 -A SIDE-
1-669-031-11

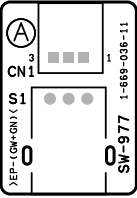


DFP-D3000 (UC) : S/N 10001 and Higher
DFP-D3000 (J) : S/N 30001 and Higher
DFP-D3000 (CE) : S/N 40001 and Higher

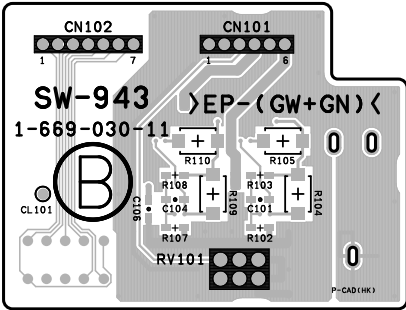
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1-669-031-11



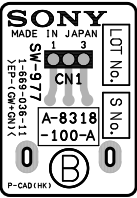
SW-943 -A SIDE-
1-669-030-11



SW-977 -A SIDE-
1-669-036-11



SW-943 -B SIDE-
1-669-030-11



SW-977 -B SIDE-
1-669-036-11

DFP-D3000 (UC) : S/N 10001 and Higher
DFP-D3000 (J) : S/N 30001 and Higher
DFP-D3000 (CE) : S/N 40001 and Higher

DFP-D3000 (UC) : S/N 10001 and Higher
DFP-D3000 (J) : S/N 30001 and Higher
DFP-D3000 (CE) : S/N 40001 and Higher

Section 7

Schematic Diagrams

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DFP-D3000 (UC) : S/N 10001 and Higher
DFP-D3000 (J) : S/N 30001 and Higher
DFP-D3000 (CE) : S/N 40001 and Higher

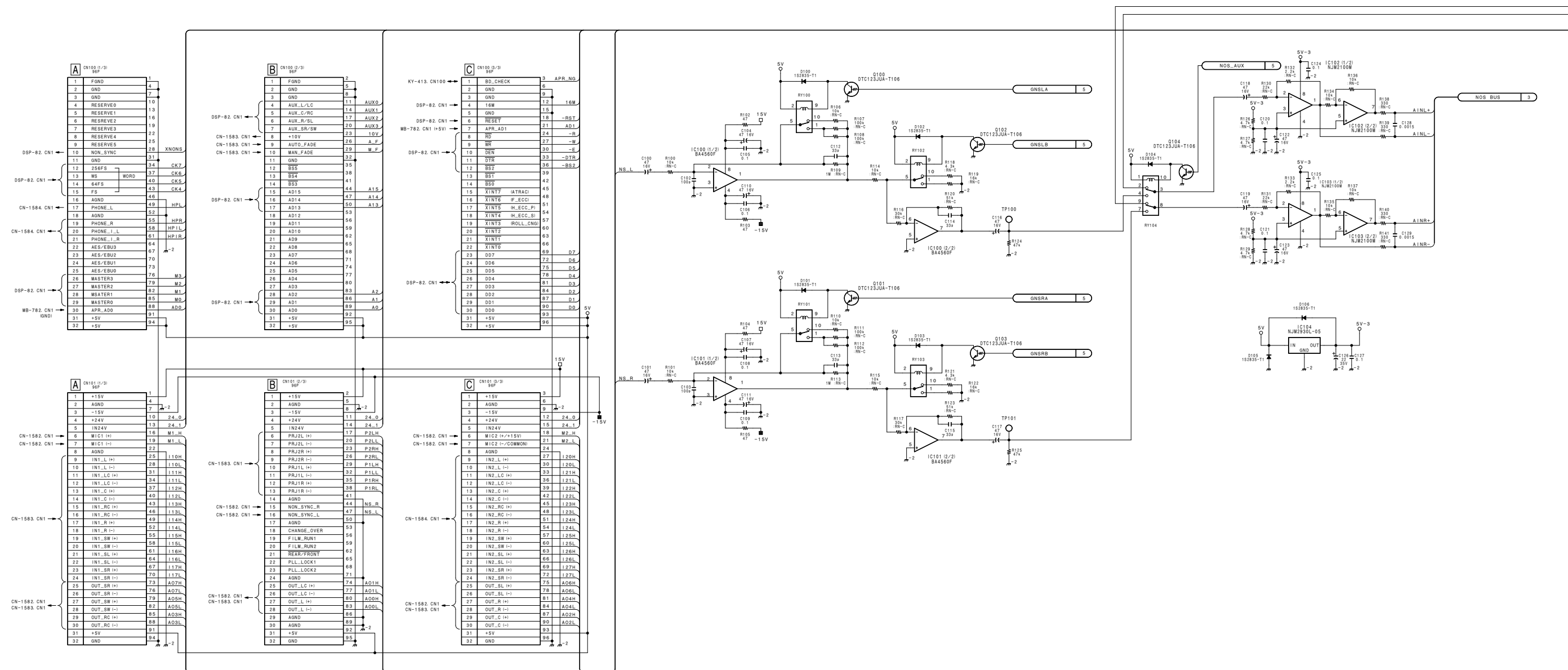
1

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7-2

7-2

DFP-D3000

A

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C

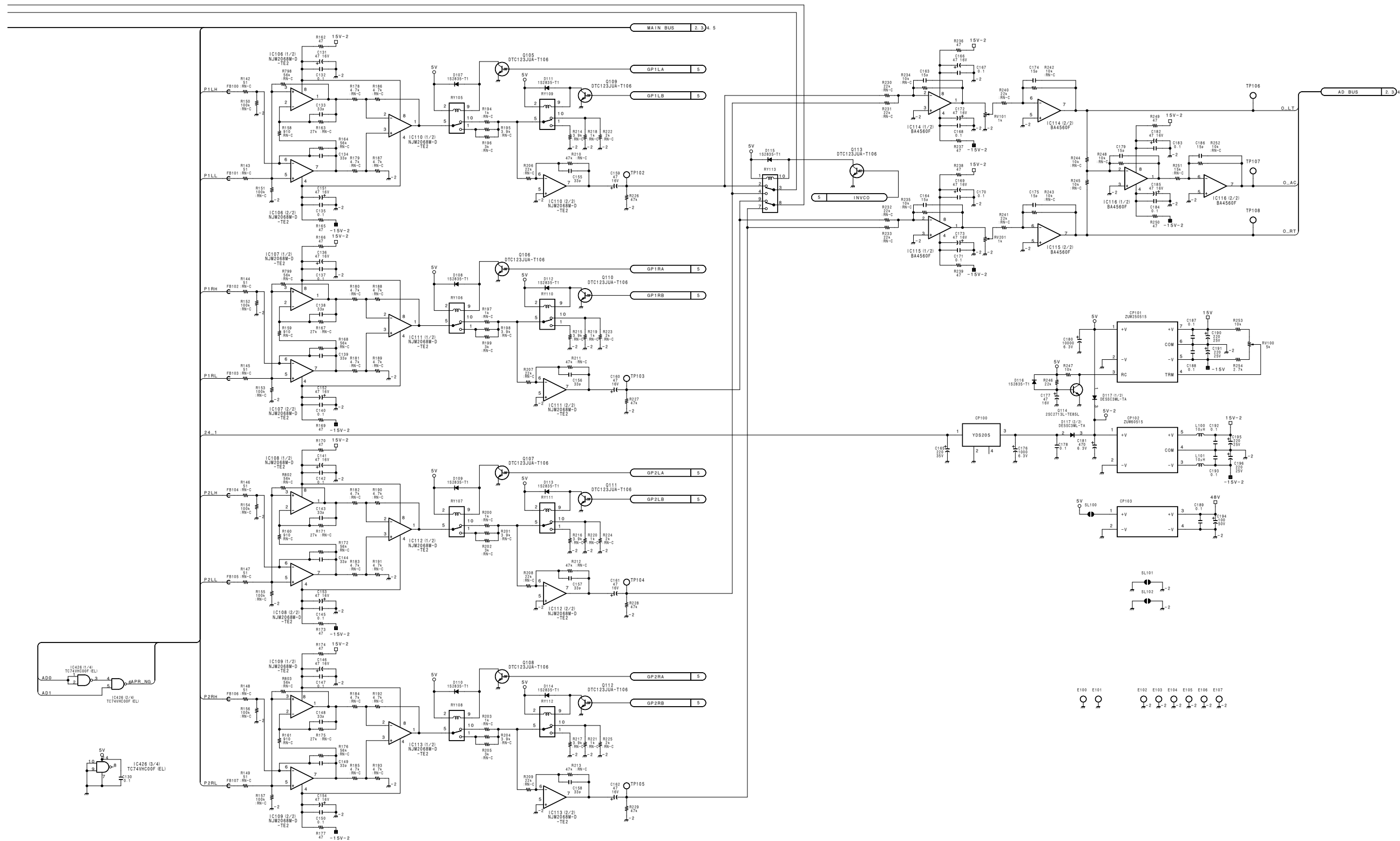
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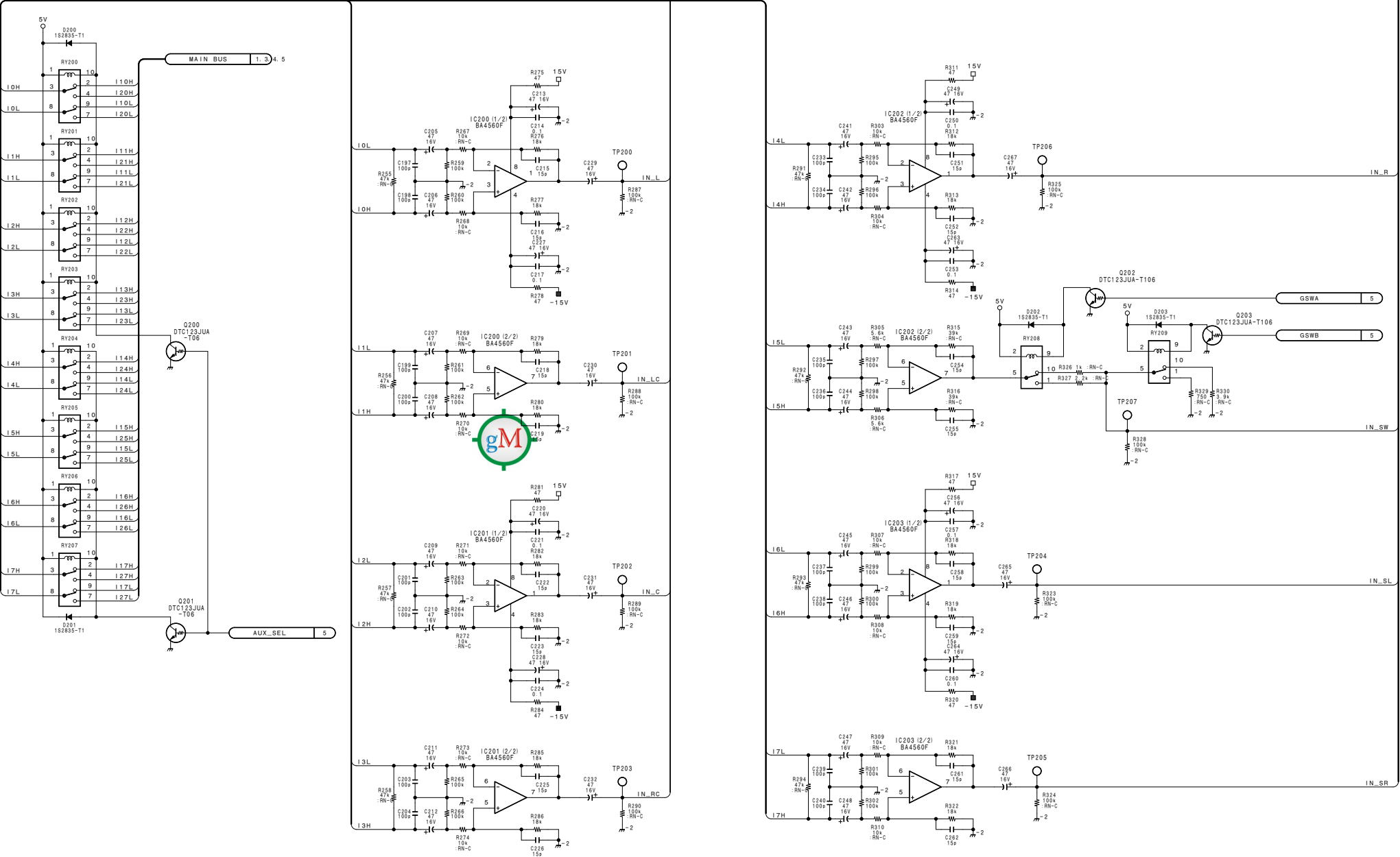
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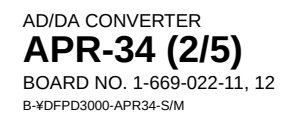
H



AD/DA CONVERTER
APR-34 (1/5)
BOARD NO. 1-669-022-11, 12
B-YDFPD3000-APR34-S/M

DFP-D3000 (UC) : S/N 10001 and Higher
DFP-D3000 (J) : S/N 30001 and Higher
DFP-D3000 (CE) : S/N 40001 and Higher





DFP-D3000 (UC) : S/N 10001 and Higher
DFP-D3000 (J) : S/N 30001 and Higher
DFP-D3000 (CE) : S/N 40001 and Higher

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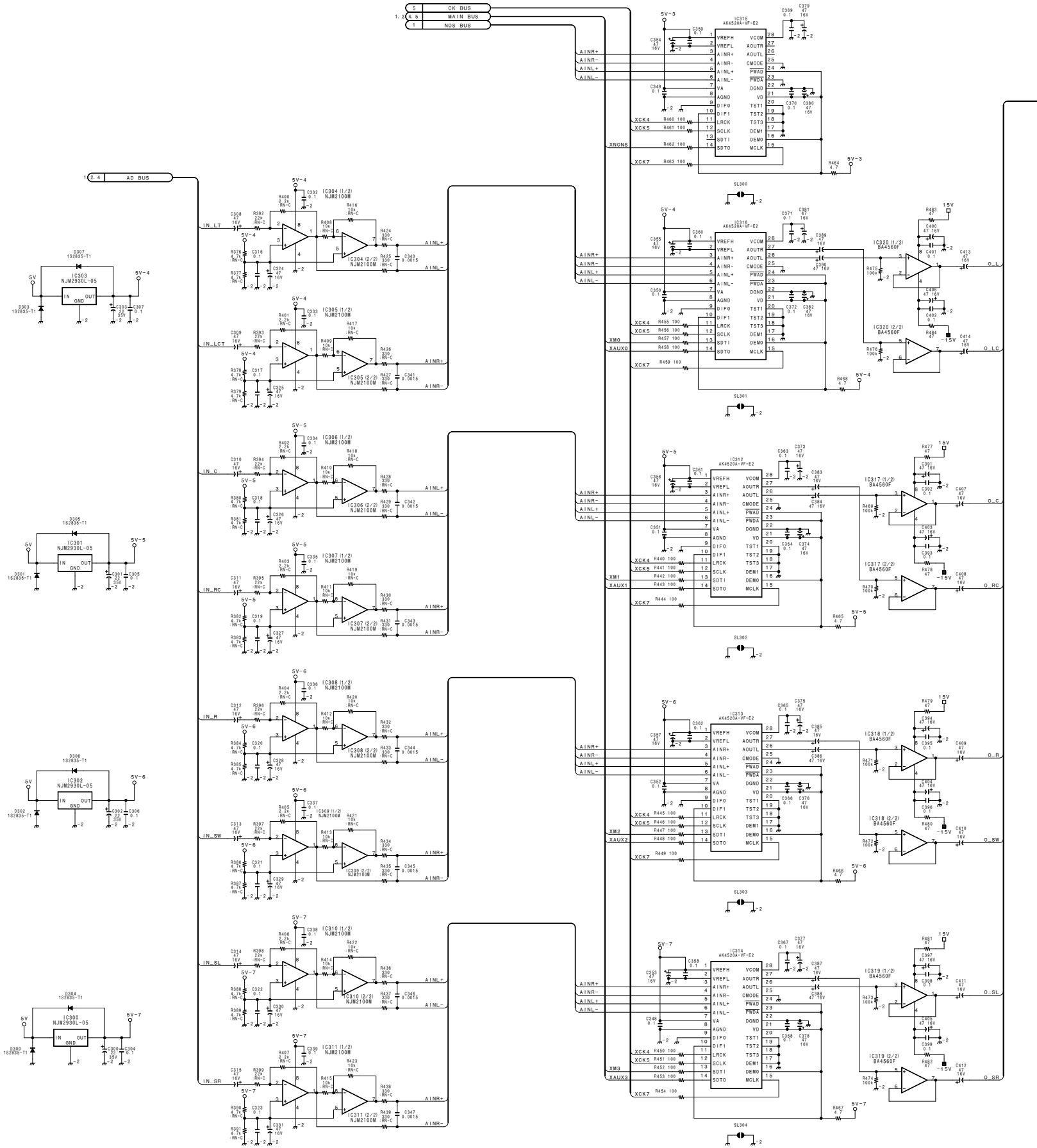
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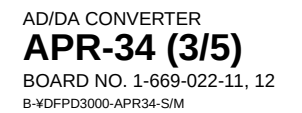
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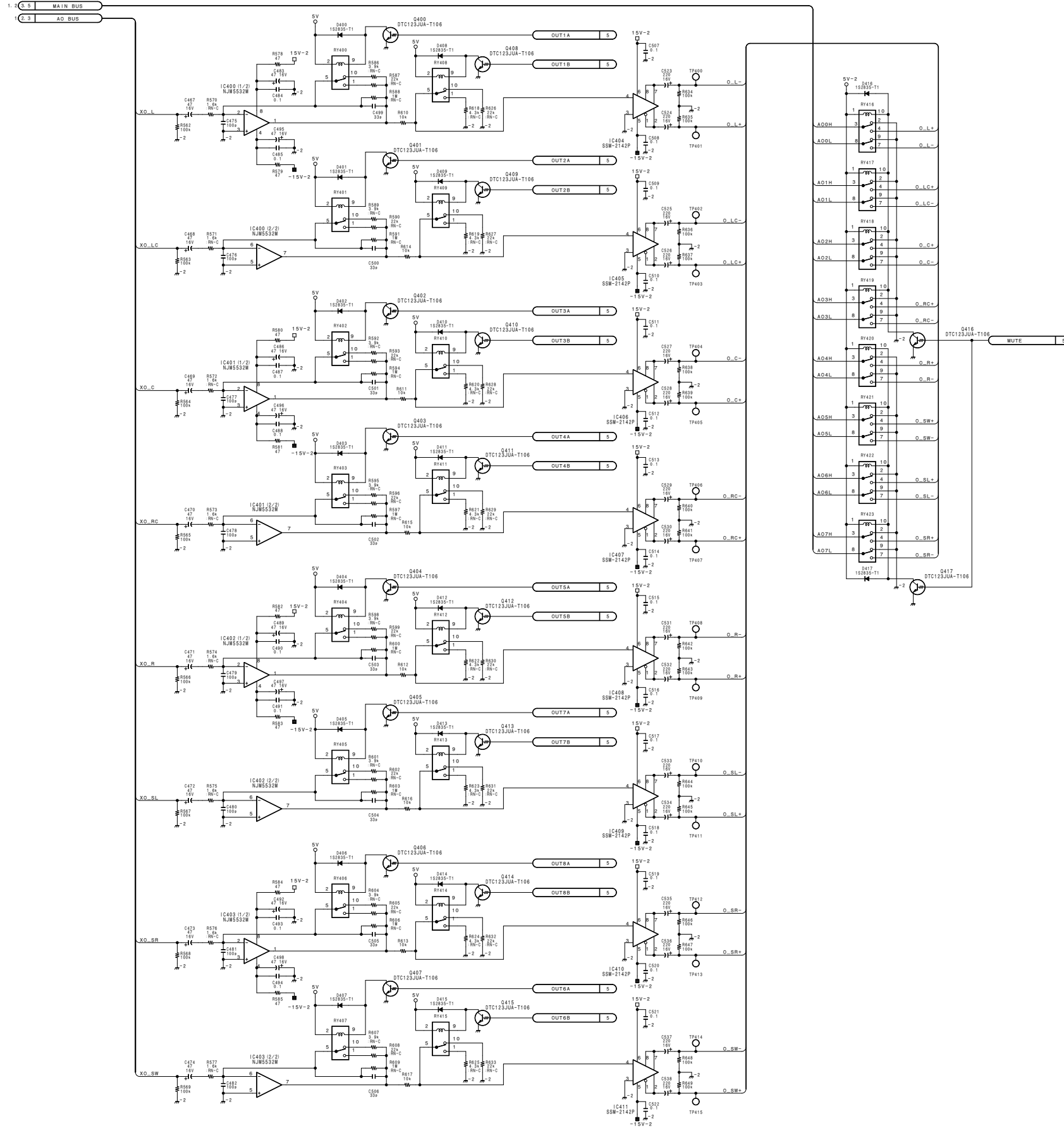
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H



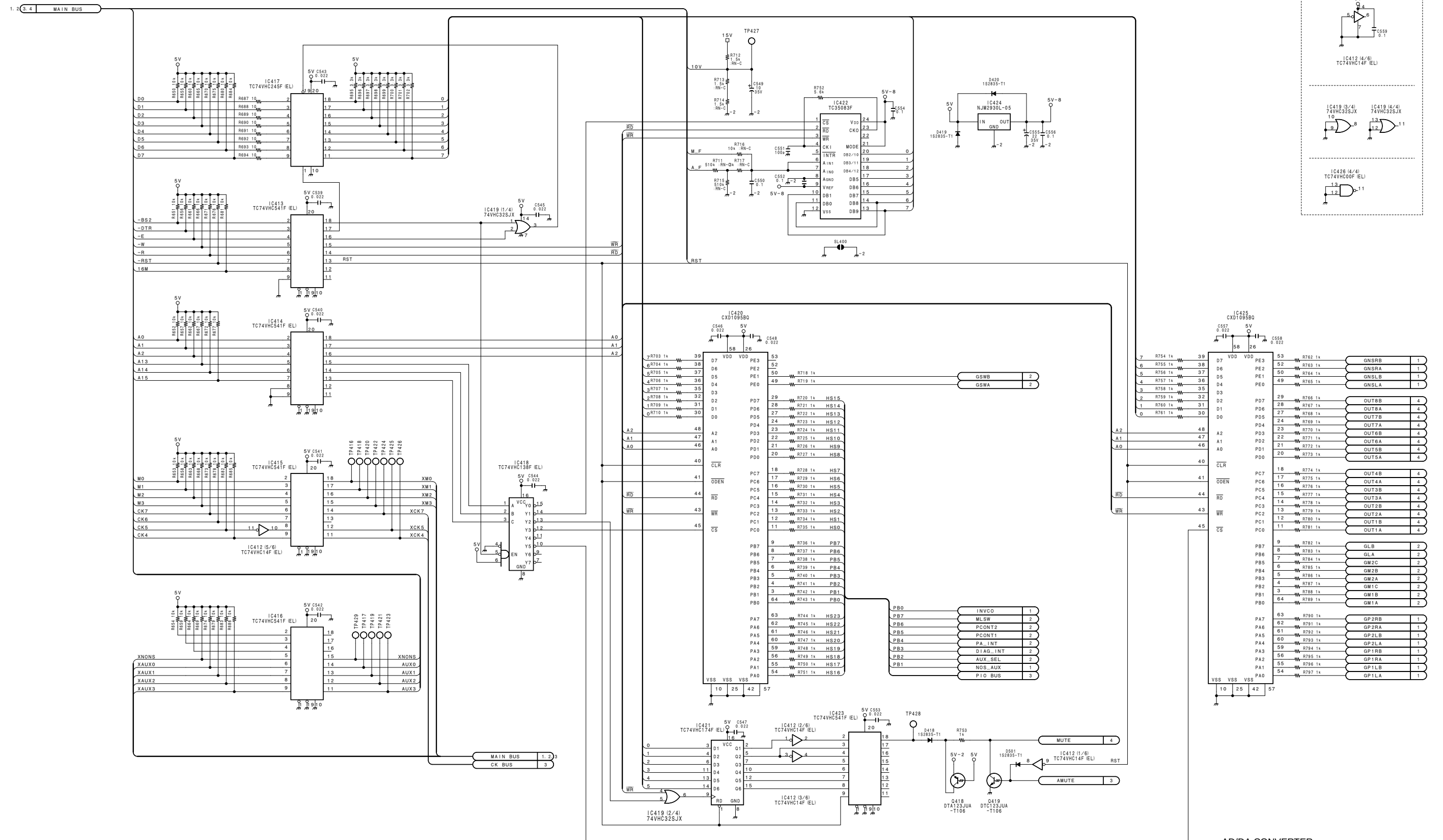


DFP-D3000 (UC) : S/N 10001 and Higher
DFP-D3000 (J) : S/N 30001 and Higher
DFP-D3000 (CE) : S/N 40001 and Higher



AD/DA CONVERTER
APR-34 (4/5)
BOARD NO. 1-669-022-11, 12
B-YDFPD3000-APR34-S/M

DFP-D3000 (UC) : S/N 10001 and Higher
DFP-D3000 (J) : S/N 30001 and Higher
DFP-D3000 (CE) : S/N 40001 and Higher



AD/DA CONVERTER
APR-34 (5/5)
BOARD NO. 1-669-022-11, 12
B-¥DFPD3000-APR34-S/M

DFP-D3000 (UC) : S/N 10001 and Higher
DFP-D3000 (J) : S/N 30001 and Higher
DFP-D3000 (CE) : S/N 40001 and Higher

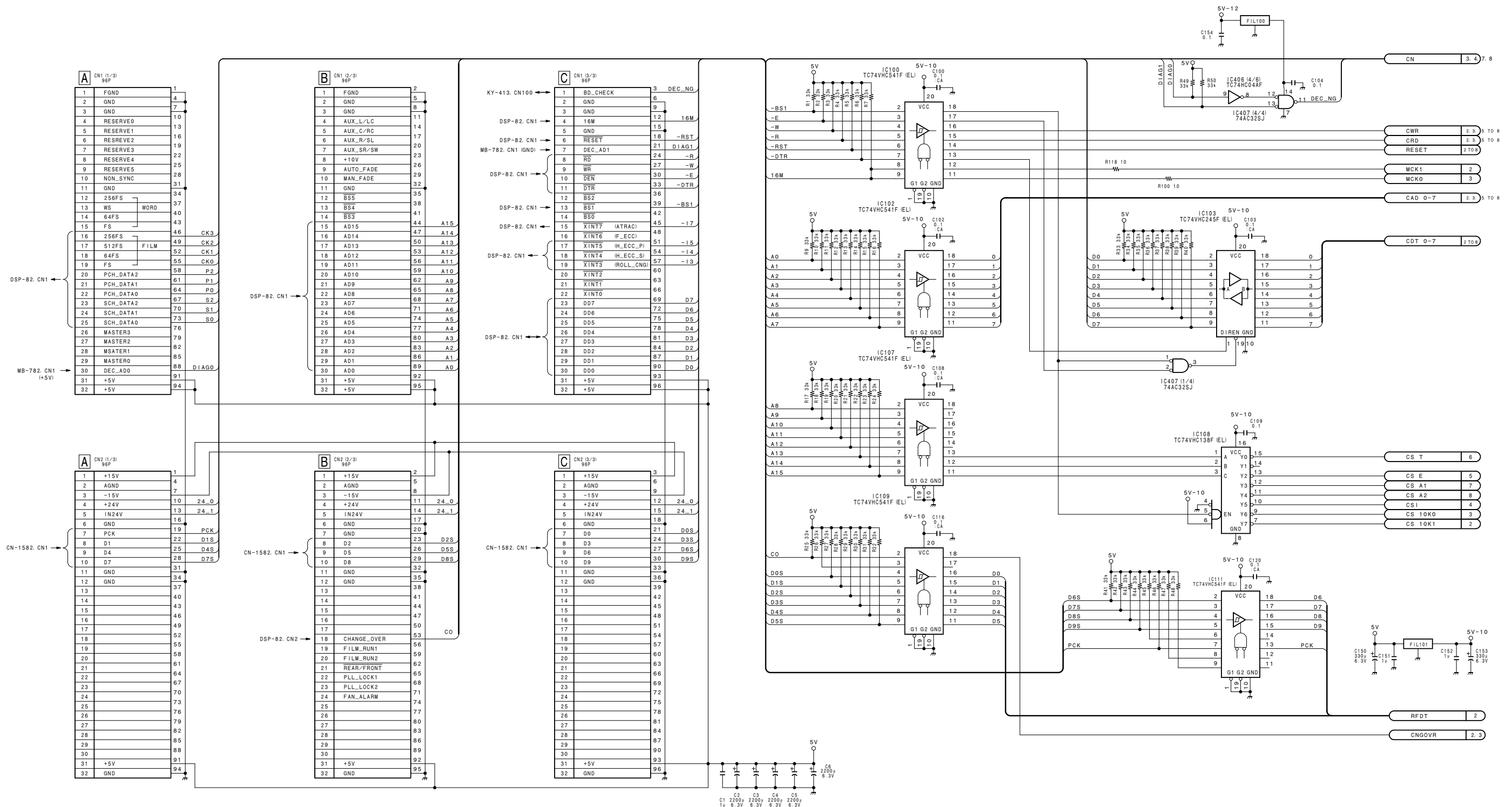
1

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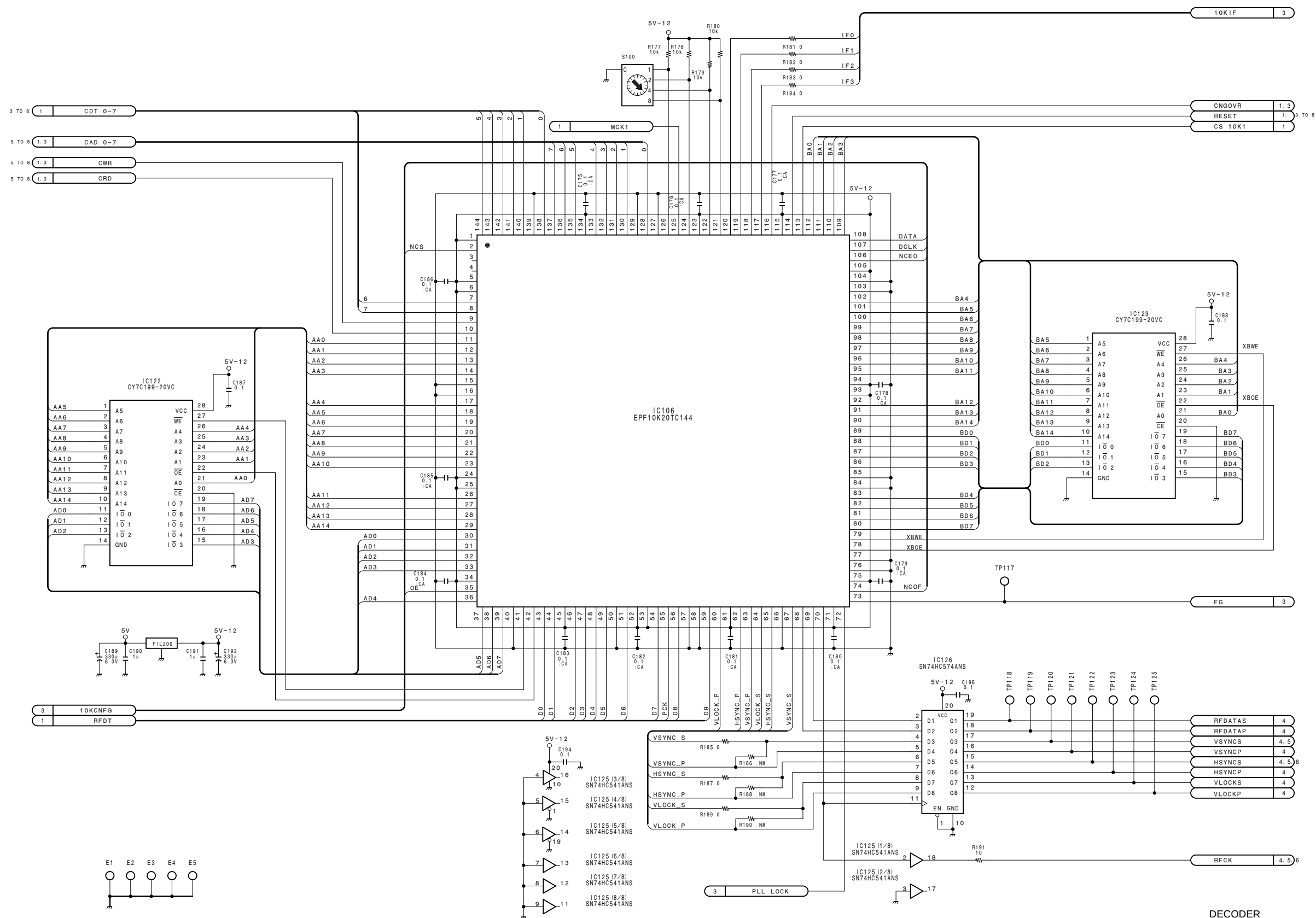
4

5



DECODER
DEC-102 (1/9)
BOARD NO. 1-669-024-12
B-YDFPD3000-DEC102-S/M

DFP-D3000 (UC) : S/N 10001 and Higher
DFP-D3000 (J) : S/N 30001 and Higher
DFP-D3000 (CE) : S/N 40001 and Higher



DECODER
DEC-102 (2/9)
BOARD NO. 1-669-024-12
B-YDFPD3000-DEC102-S/M

DFP-D3000 (UC) : S/N 10001 and Higher
 DFP-D3000 (J) : S/N 30001 and Higher
 DFP-D3000 (CE) : S/N 40001 and Higher

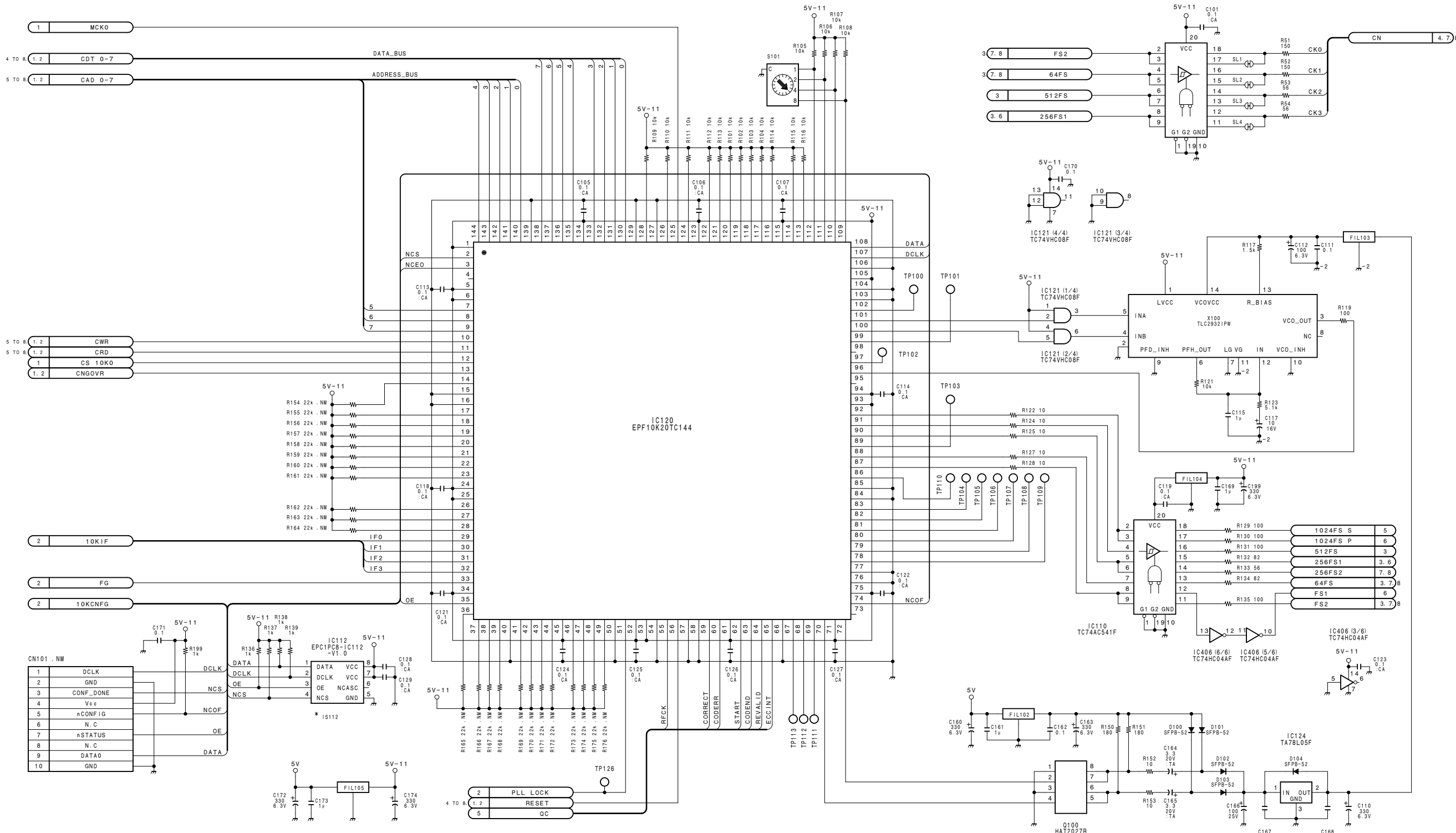
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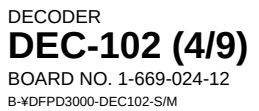
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5



DECODER
DEC-102 (3/9)
 BOARD NO. 1-669-024-12
 B-WDFPD3000-DEC102-S/M

DFP-D3000 (UC) : S/N 10001 and Higher
DFP-D3000 (J) : S/N 30001 and Higher
DFP-D3000 (CE) : S/N 40001 and Higher



DFP-D3000 (UC) : S/N 10001 and Higher
DFP-D3000 (J) : S/N 30001 and Higher
DFP-D3000 (CE) : S/N 40001 and Higher

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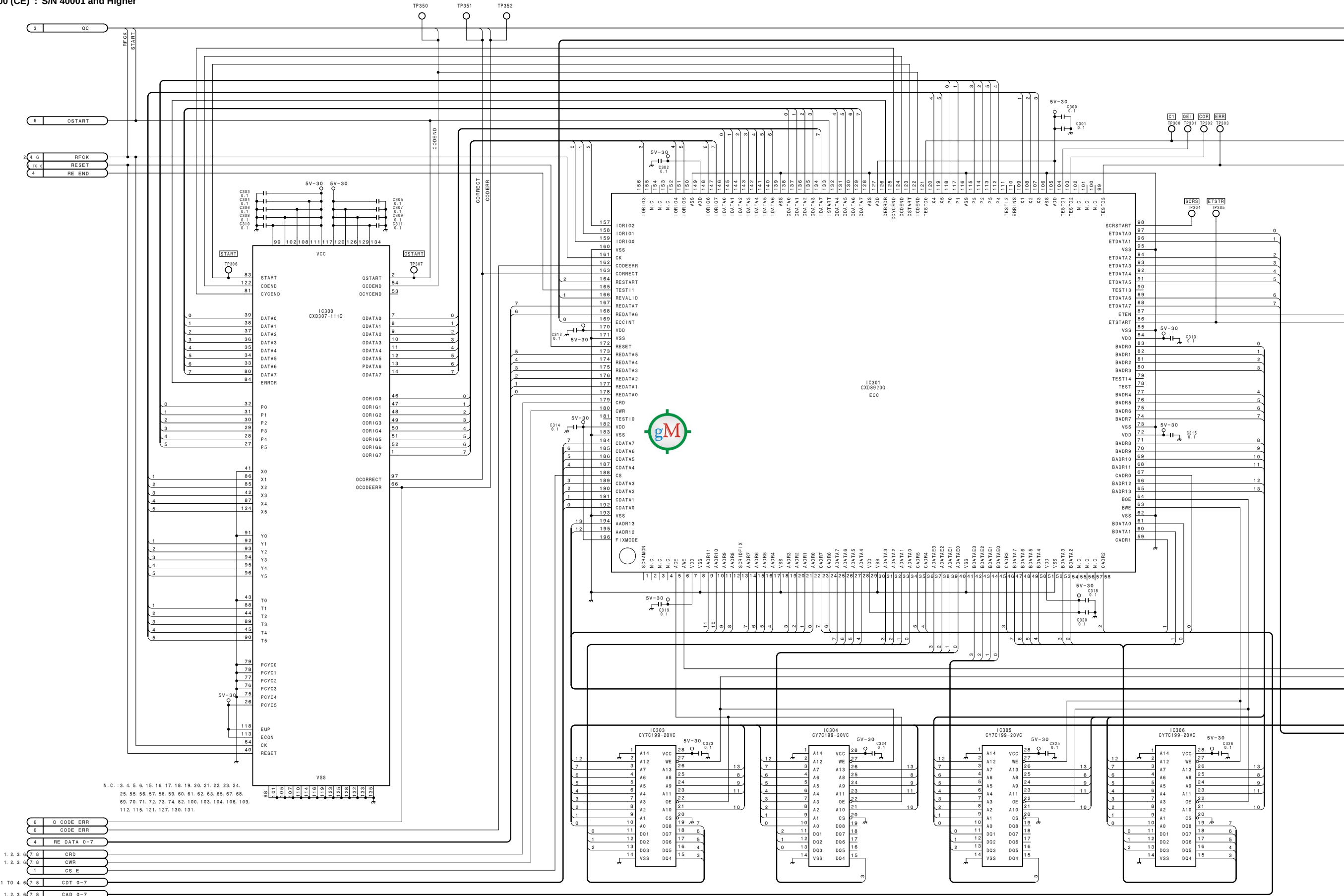
D

E

F

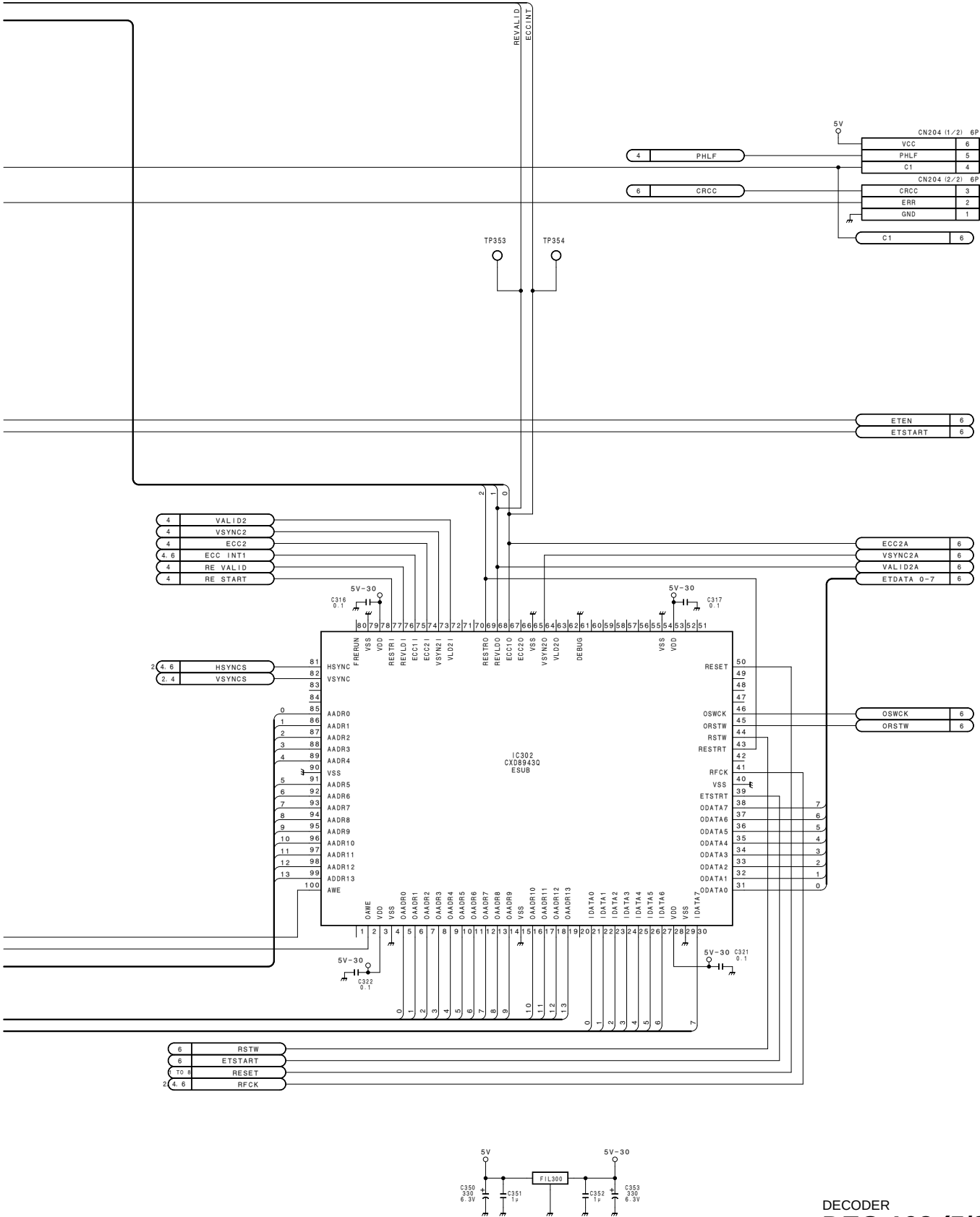
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H



7-14

7-14



DECODER
DEC-102 (5/9)
BOARD NO. 1-669-024-12
B-YDFPD3000-DEC102-S/M

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DFP-D3000 (J) : S/N 30001 and Higher
DFP-D3000 (CE) : S/N 40001 and Higher

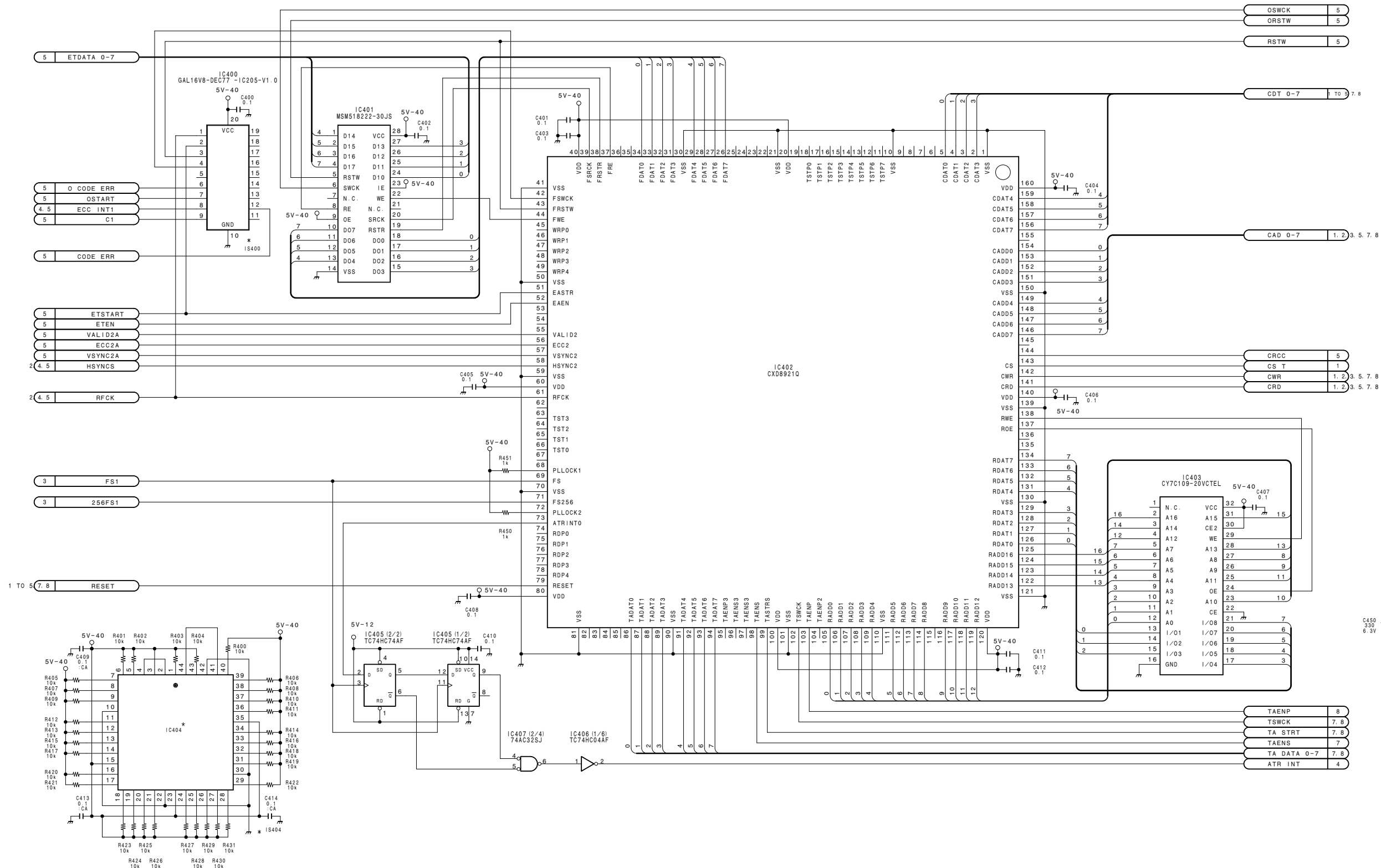
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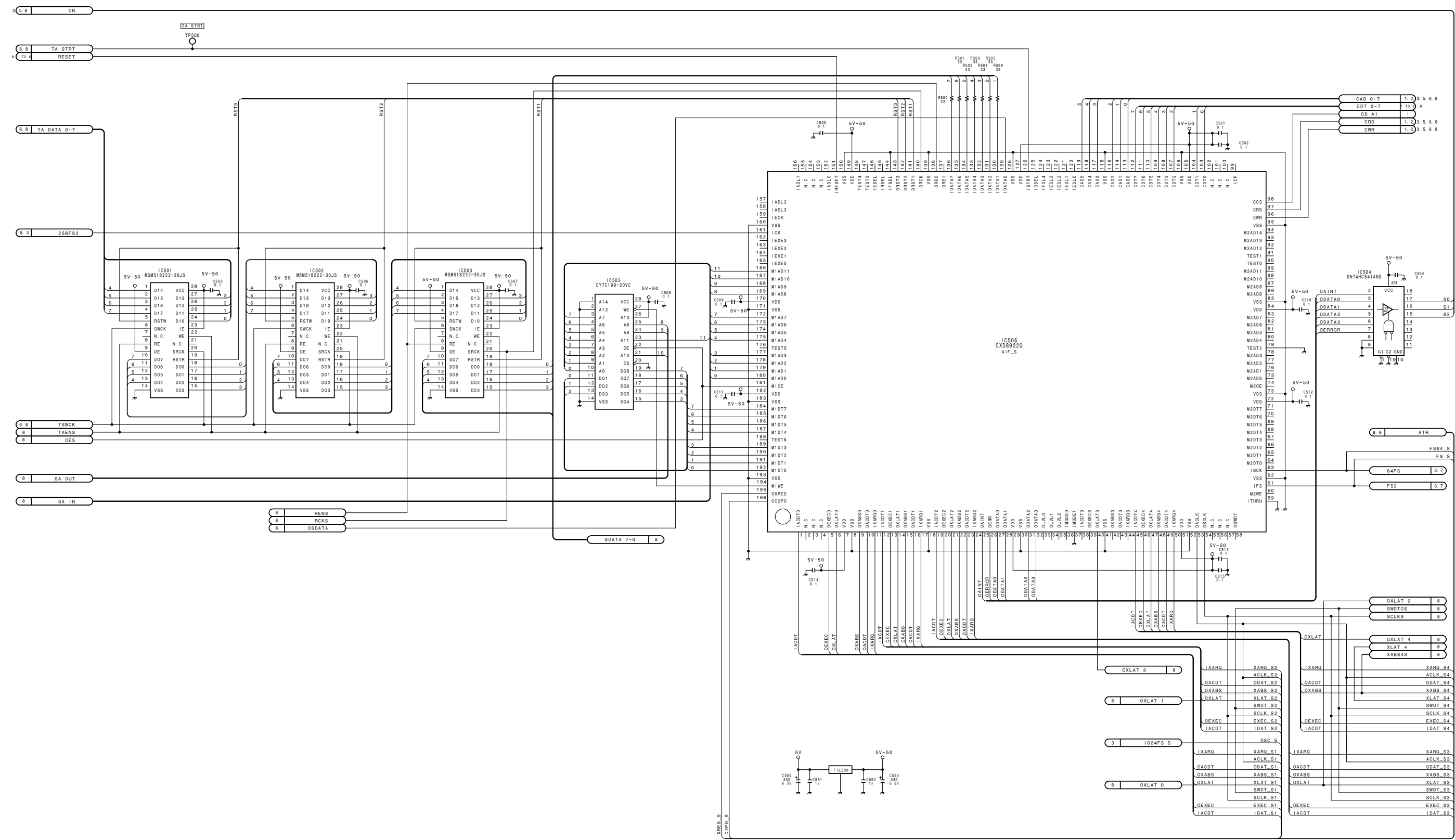
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*: IC SOCKET ONLY

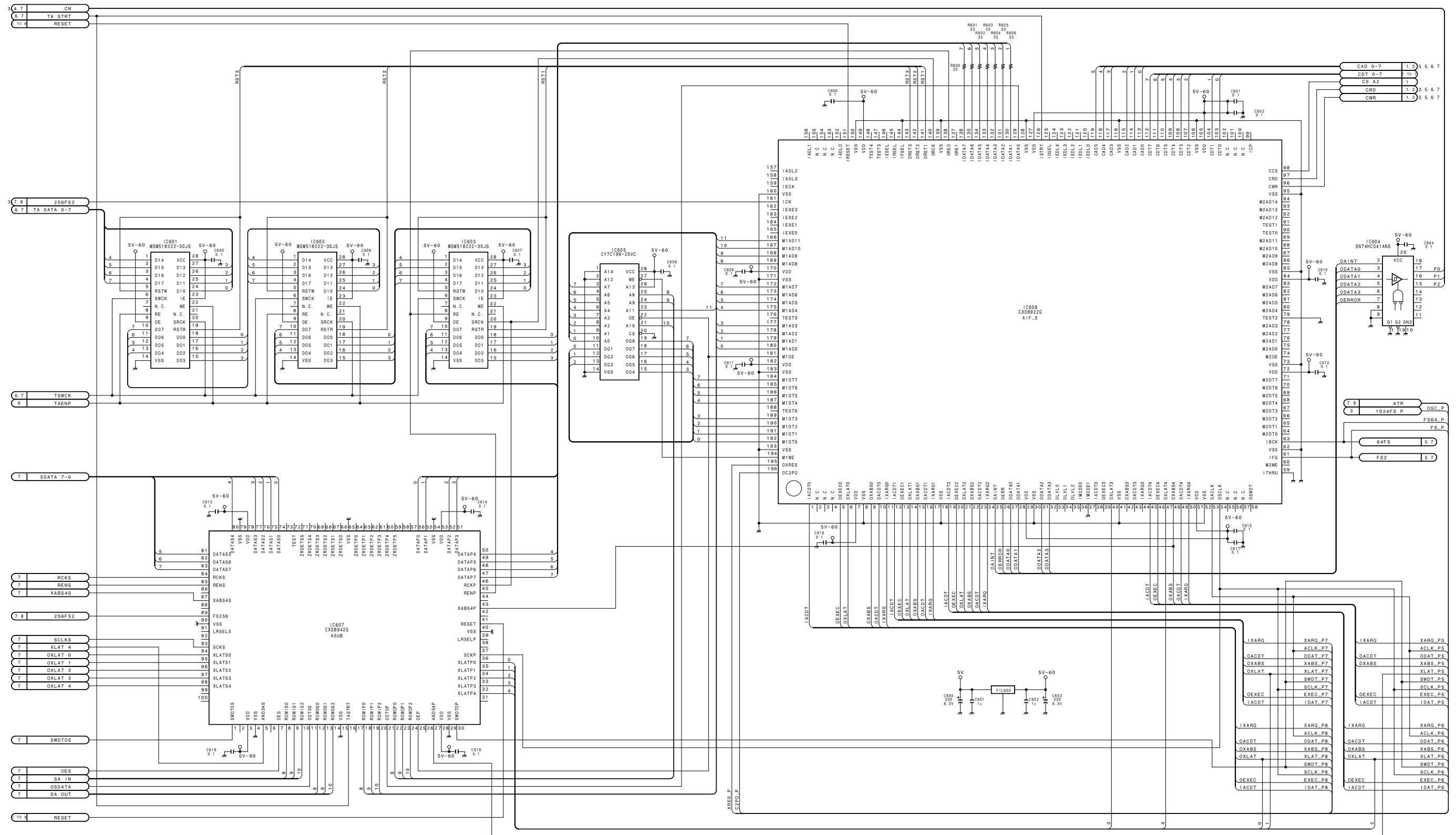
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DEC-102 (6/9)
BOARD NO. 1-669-024-12
B-YDFPD3000-DEC102-S/M

DFP-D3000 (UC) : S/N 10001 and Higher
DFP-D3000 (J) : S/N 30001 and Higher
DFP-D3000 (CE) : S/N 40001 and Higher



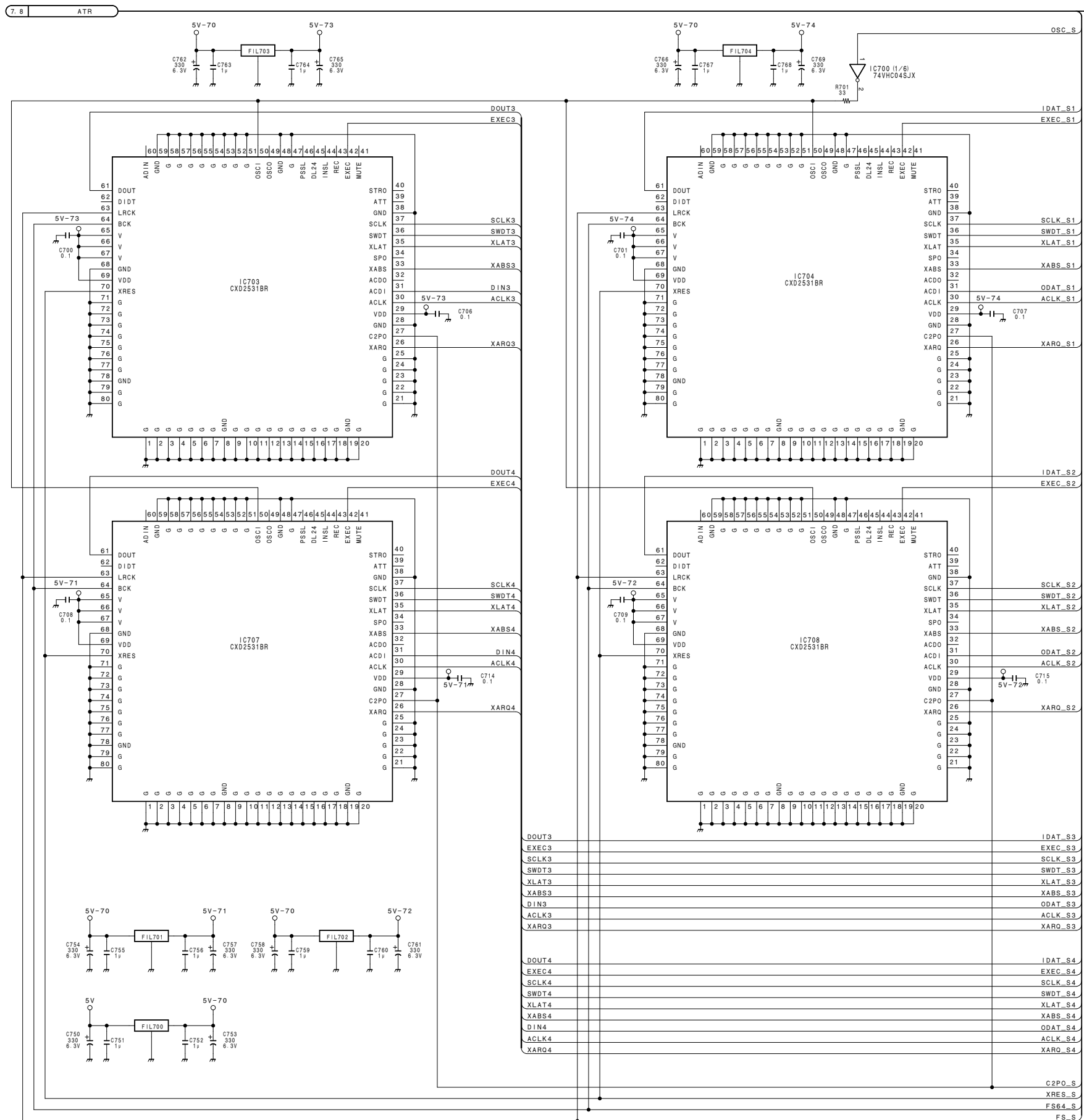
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BOARD NO. 1-669-024-12
B-VDFPD3000-DEC102-S/M

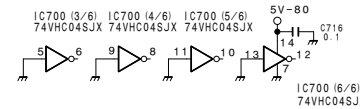
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DFP-D3000 (J) : S/N 30001 and Higher
DFP-D3000 (CE) : S/N 40001 and Higher



DECODER
DEC-102 (8/9)
BOARD NO. 1-669-024-12
B-YDFPD3000-DEC102-S/M

DFP-D3000 (UC) : S/N 10001 and Higher
DFP-D3000 (J) : S/N 30001 and Higher
DFP-D3000 (CE) : S/N 40001 and Higher

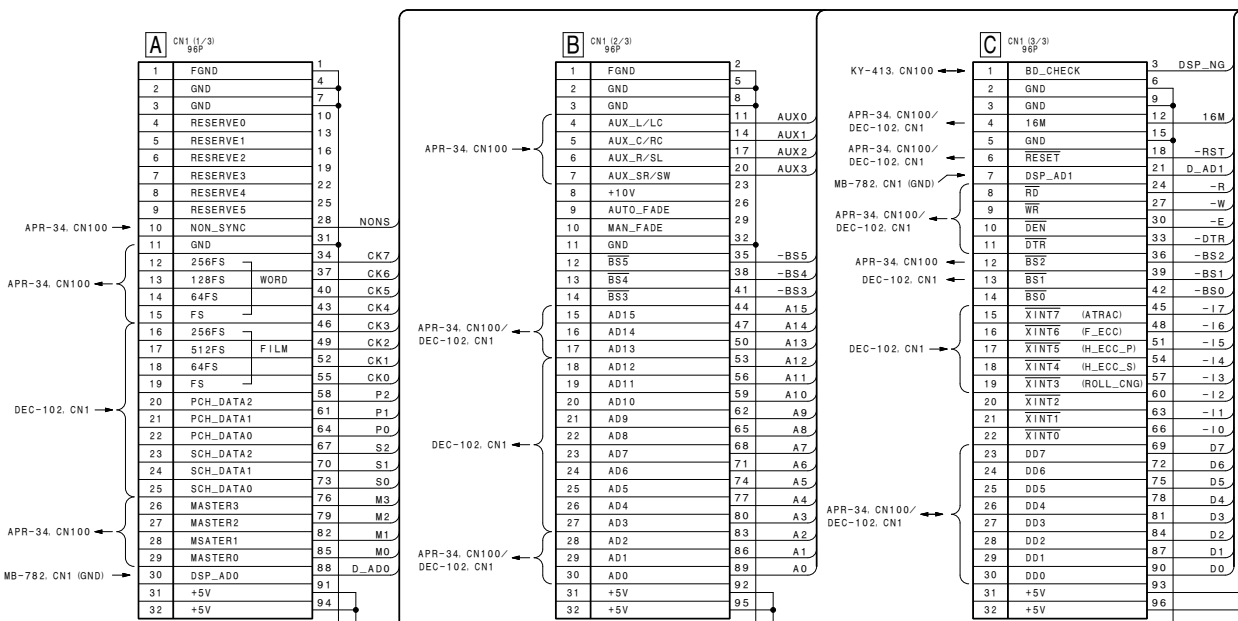




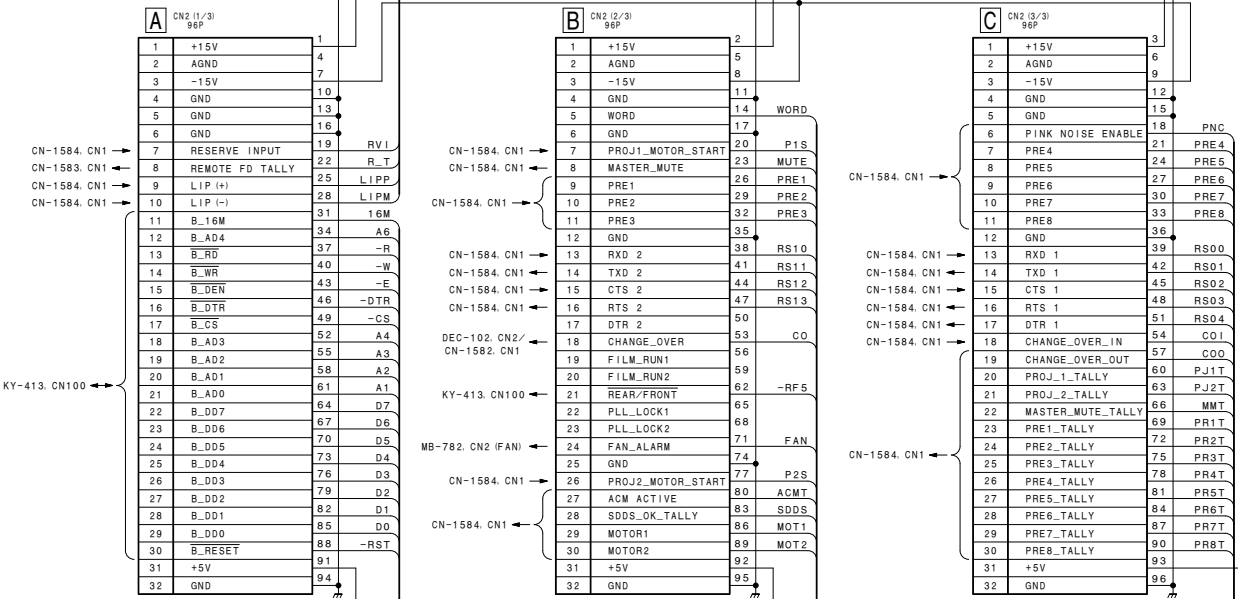
BOARD NO. 1-669-024-12
B-YDFPD3000-DEC102-S/M

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DFP-D3000 (J) : S/N 30001 and Higher
DFP-D3000 (CE) : S/N 40001 and Higher

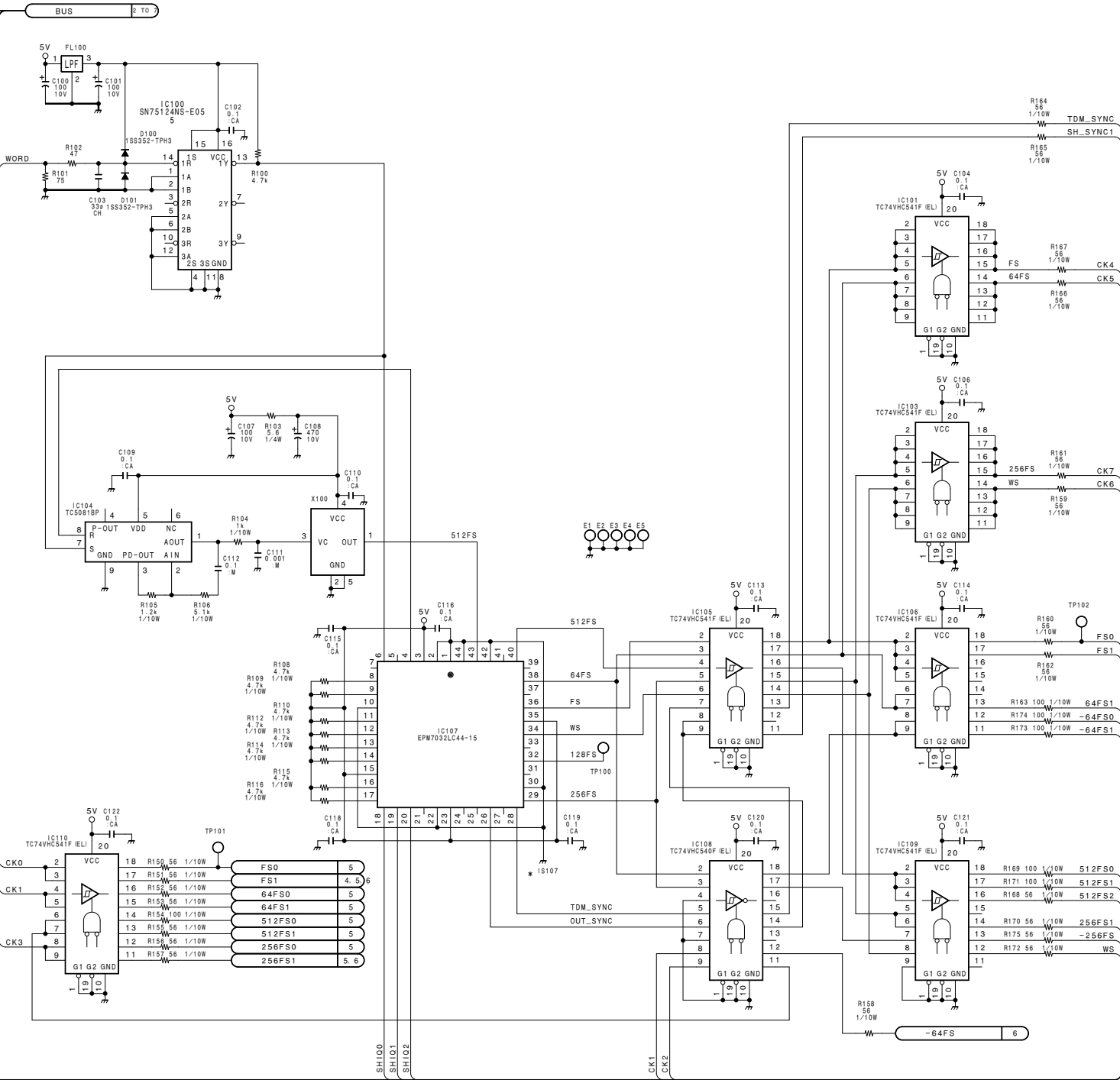
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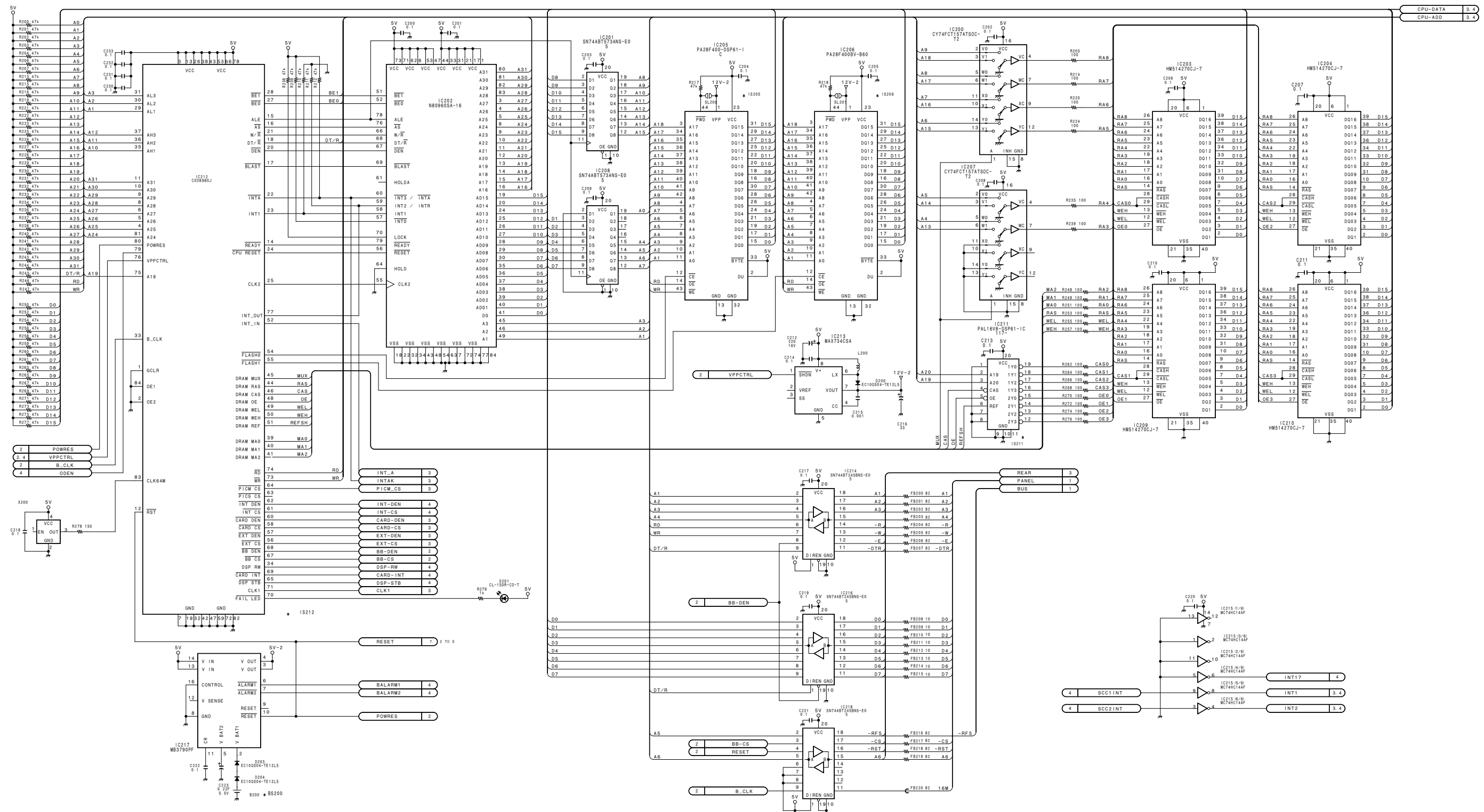
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DFP-D3000 (J) : S/N 30001 and Higher
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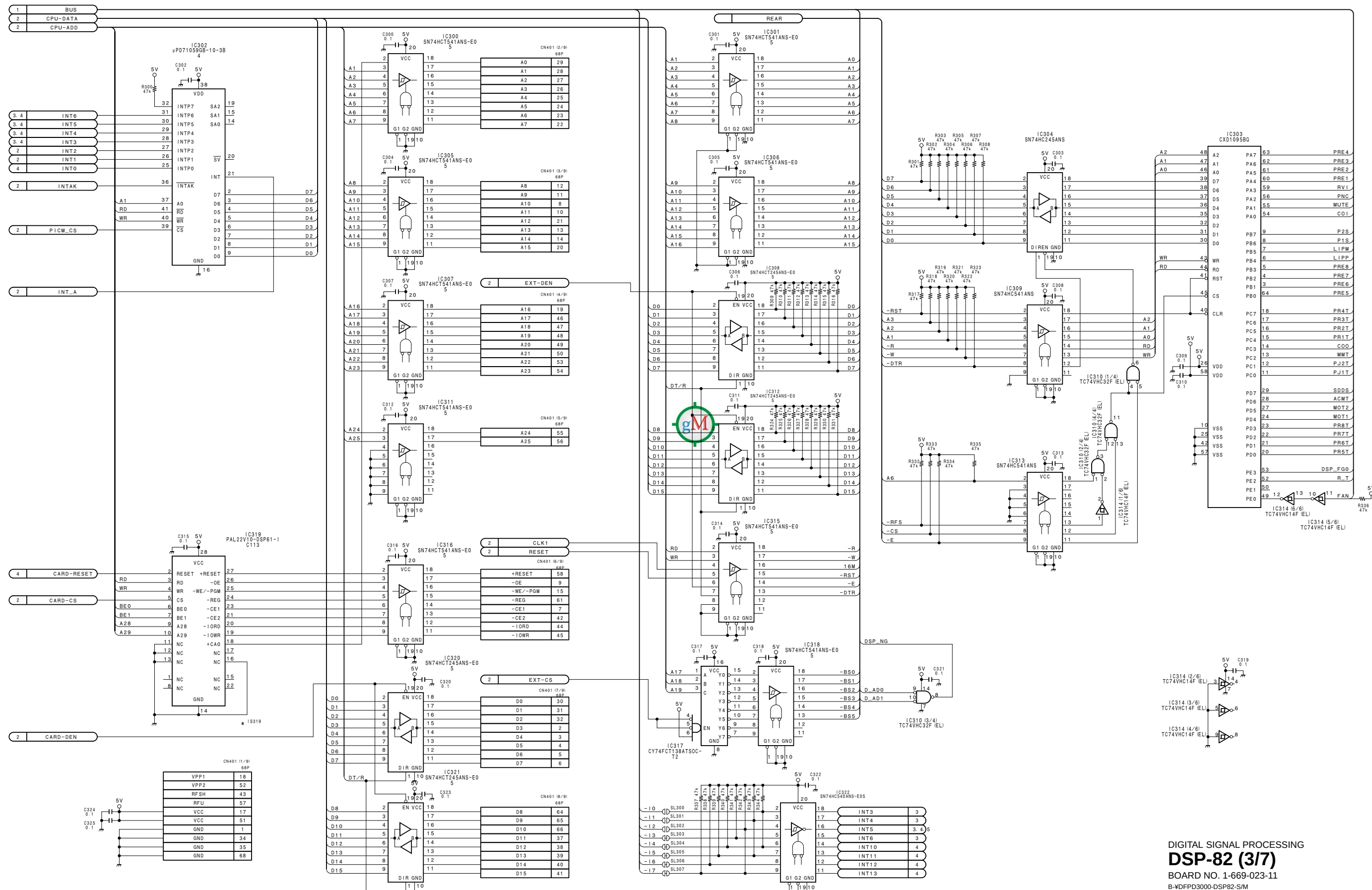
DIGITAL SIGNAL PROCESSING

DSP-82 (2/7)

BOARD NO. 1-669-023-11

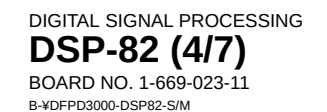
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DFP-D3000 (J) : S/N 30001 and Higher
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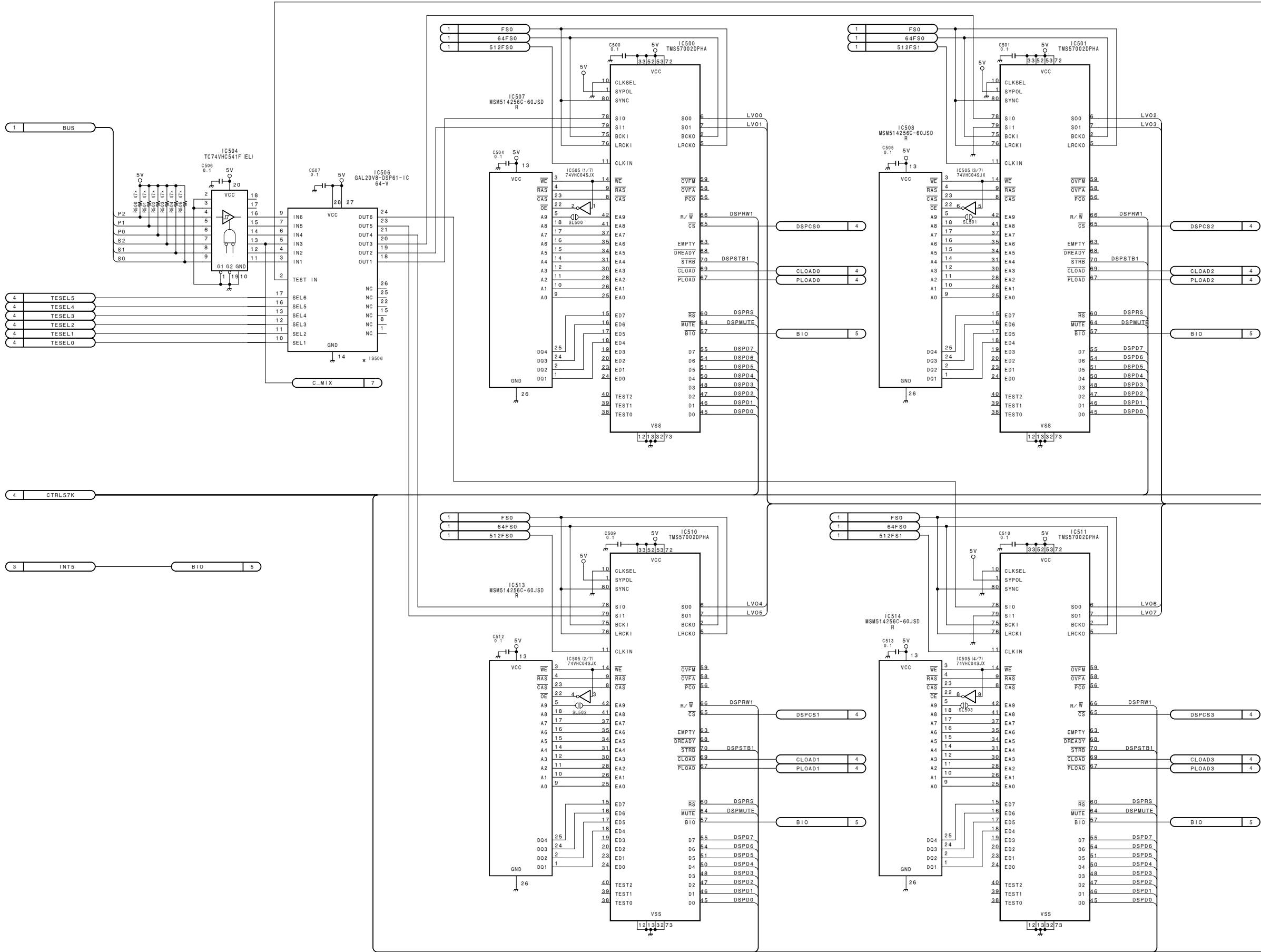


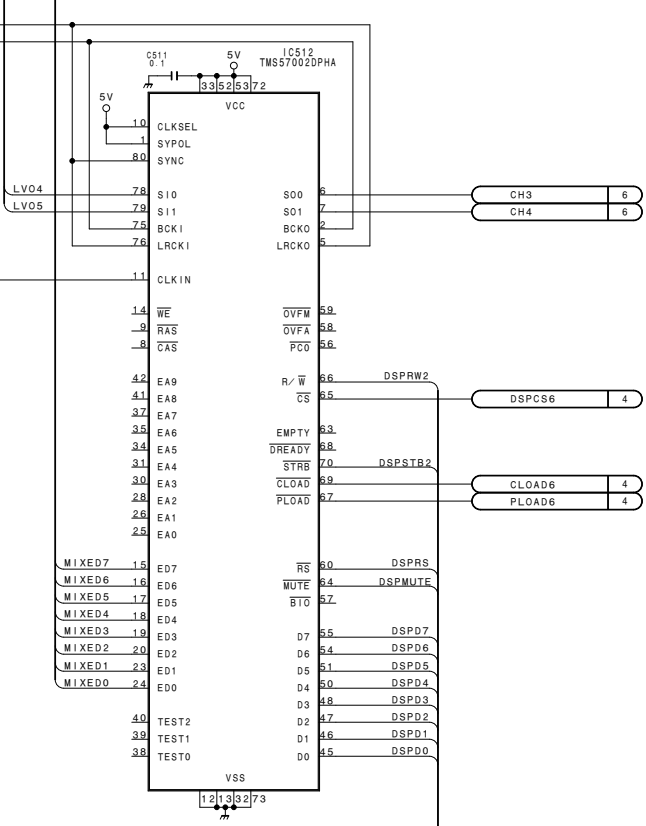
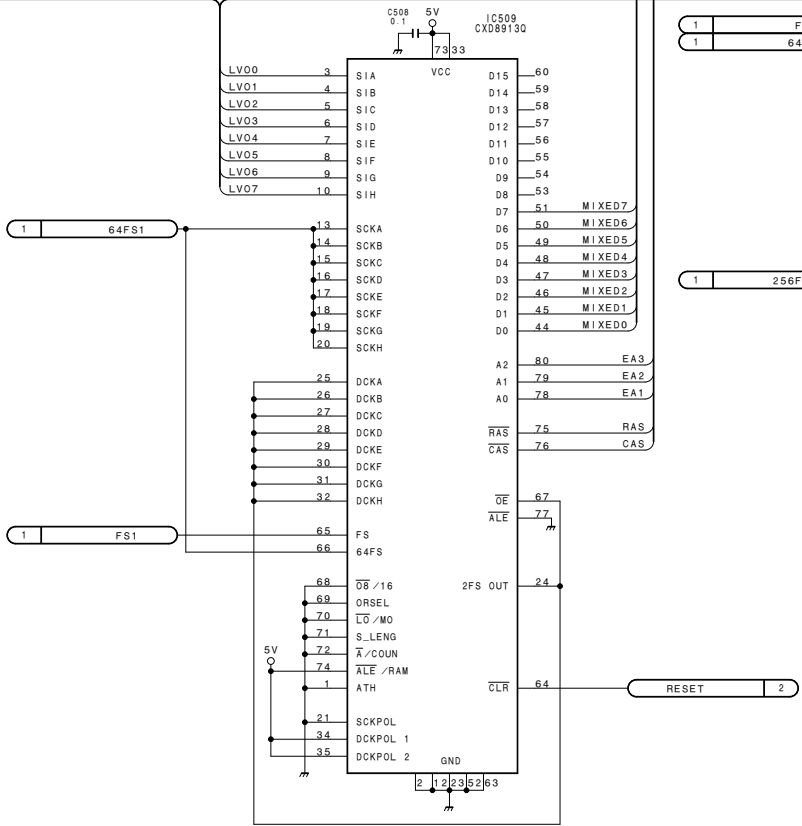
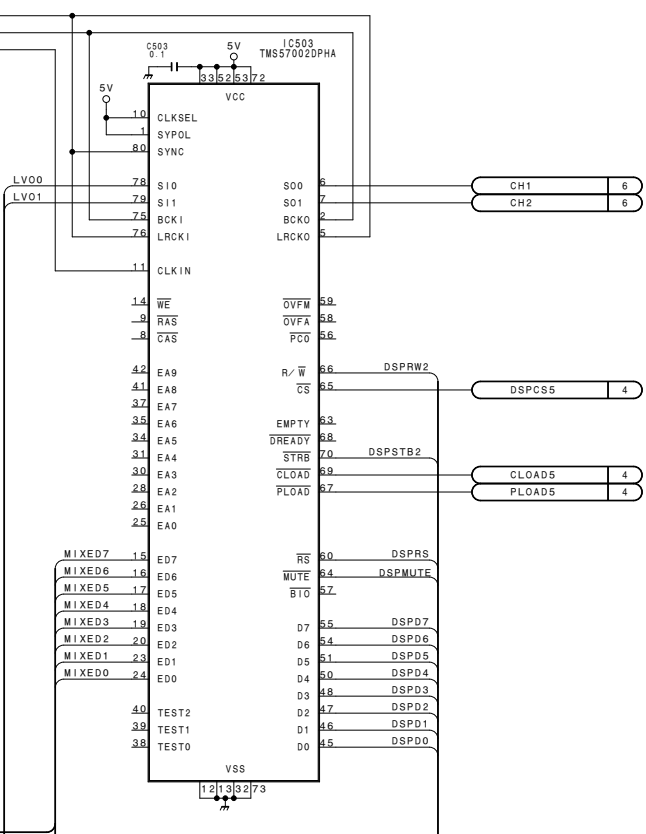
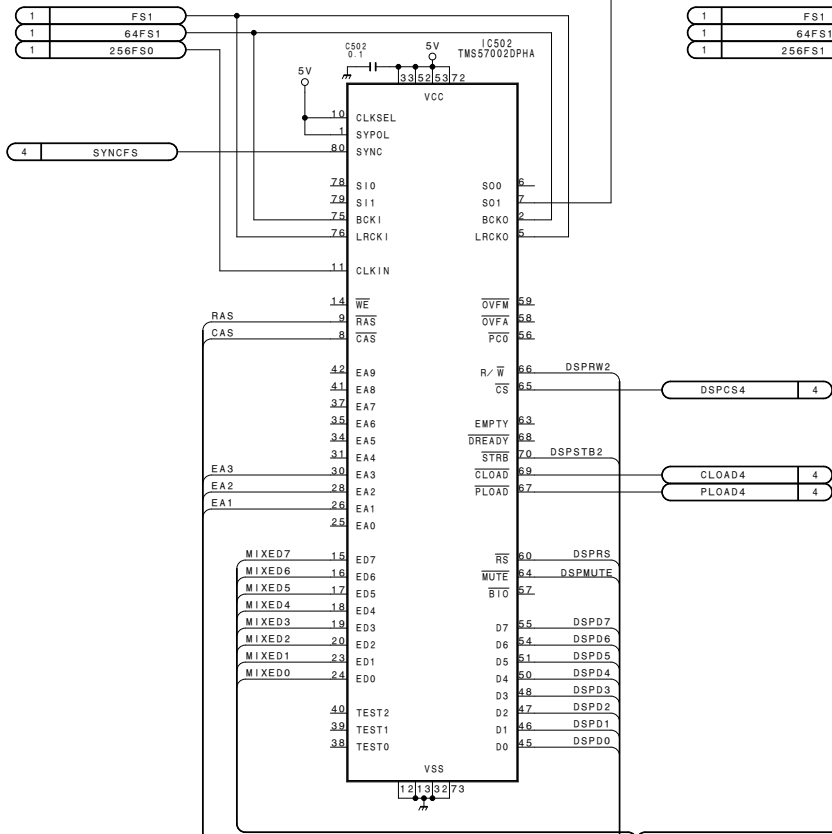
DIGITAL SIGNAL PROCESSING
DSP-82 (3/7)
BOARD NO. 1-669-023-11
B-YDFPD3000-DSP82-S/M

5

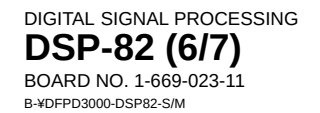


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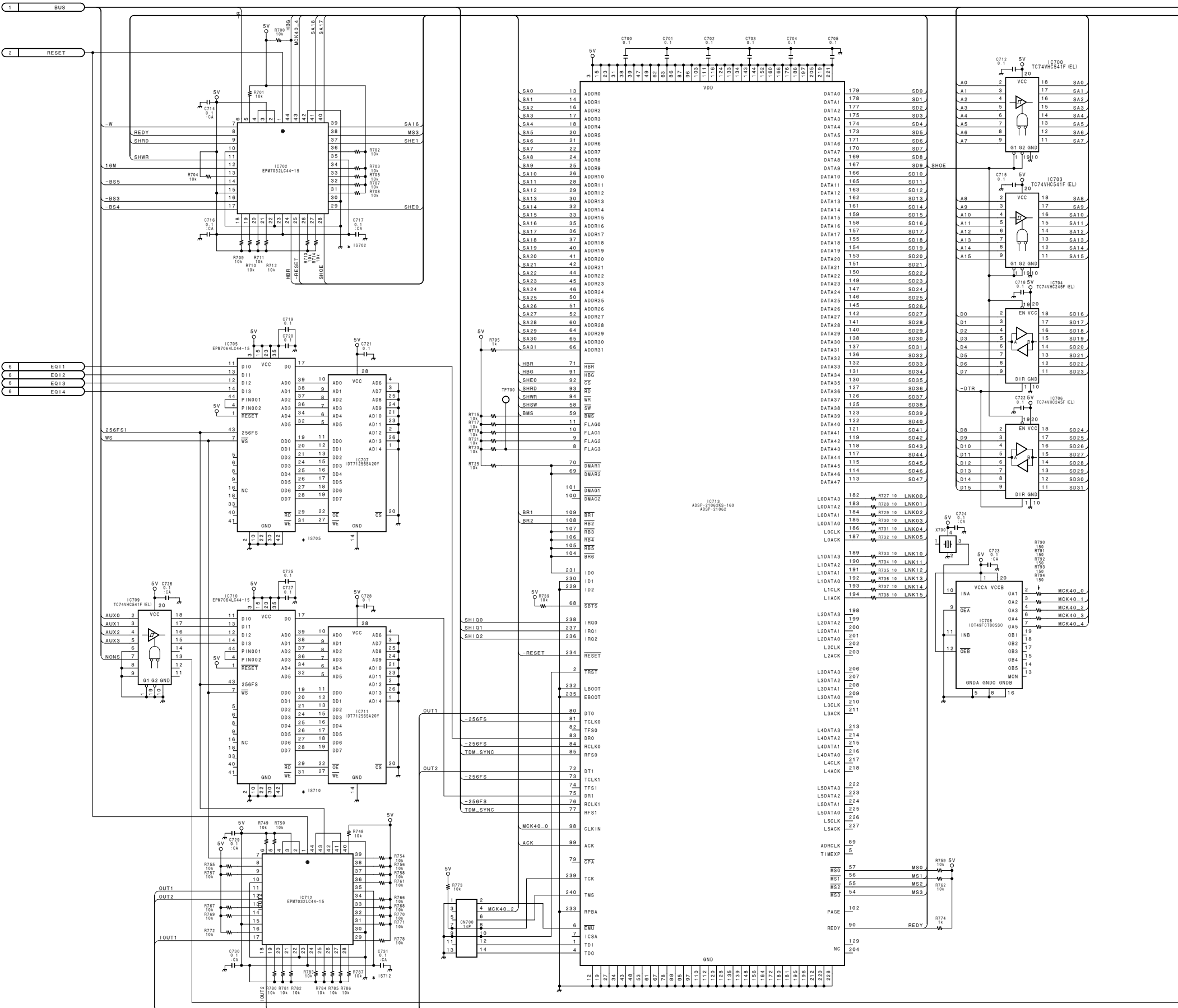


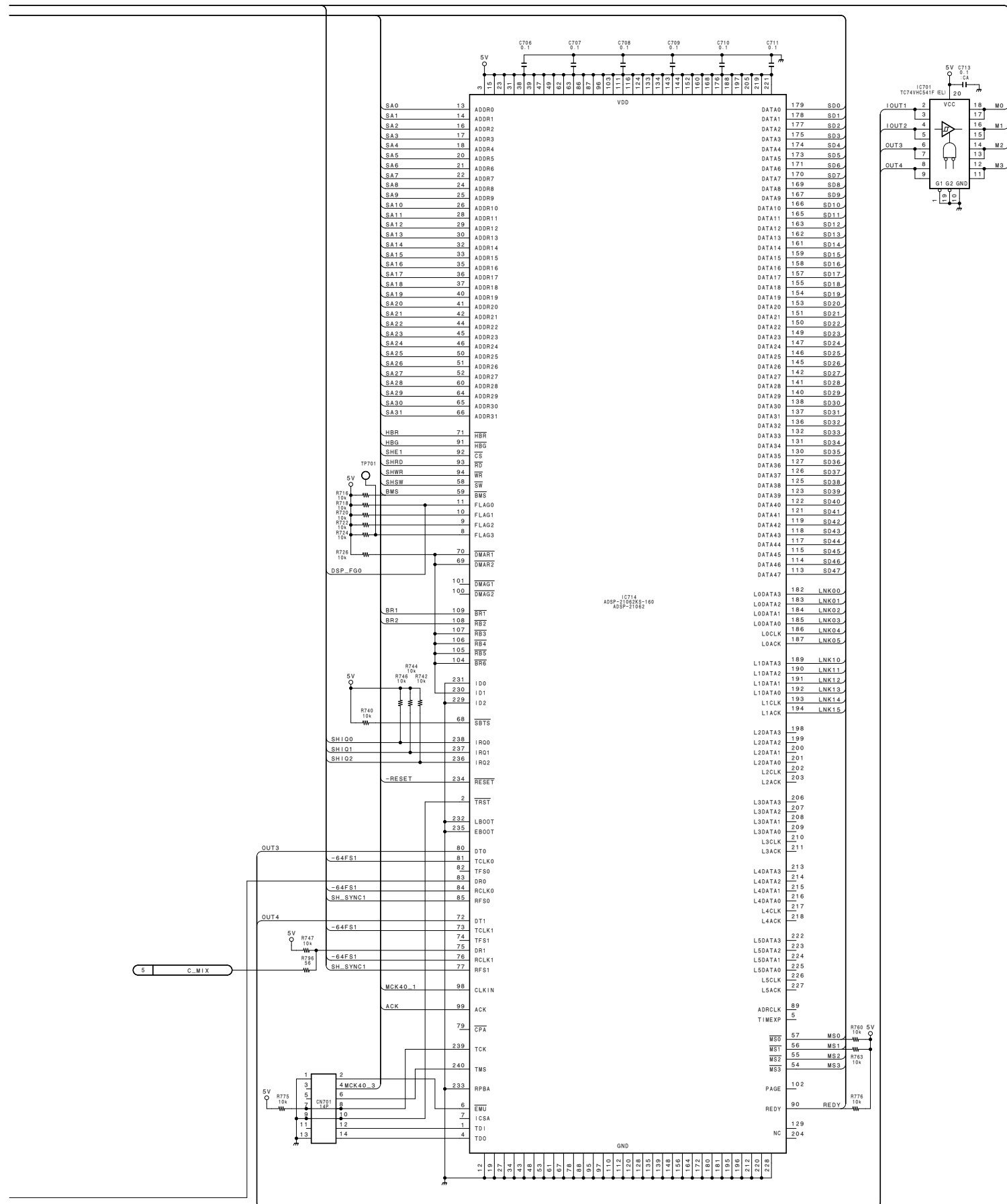


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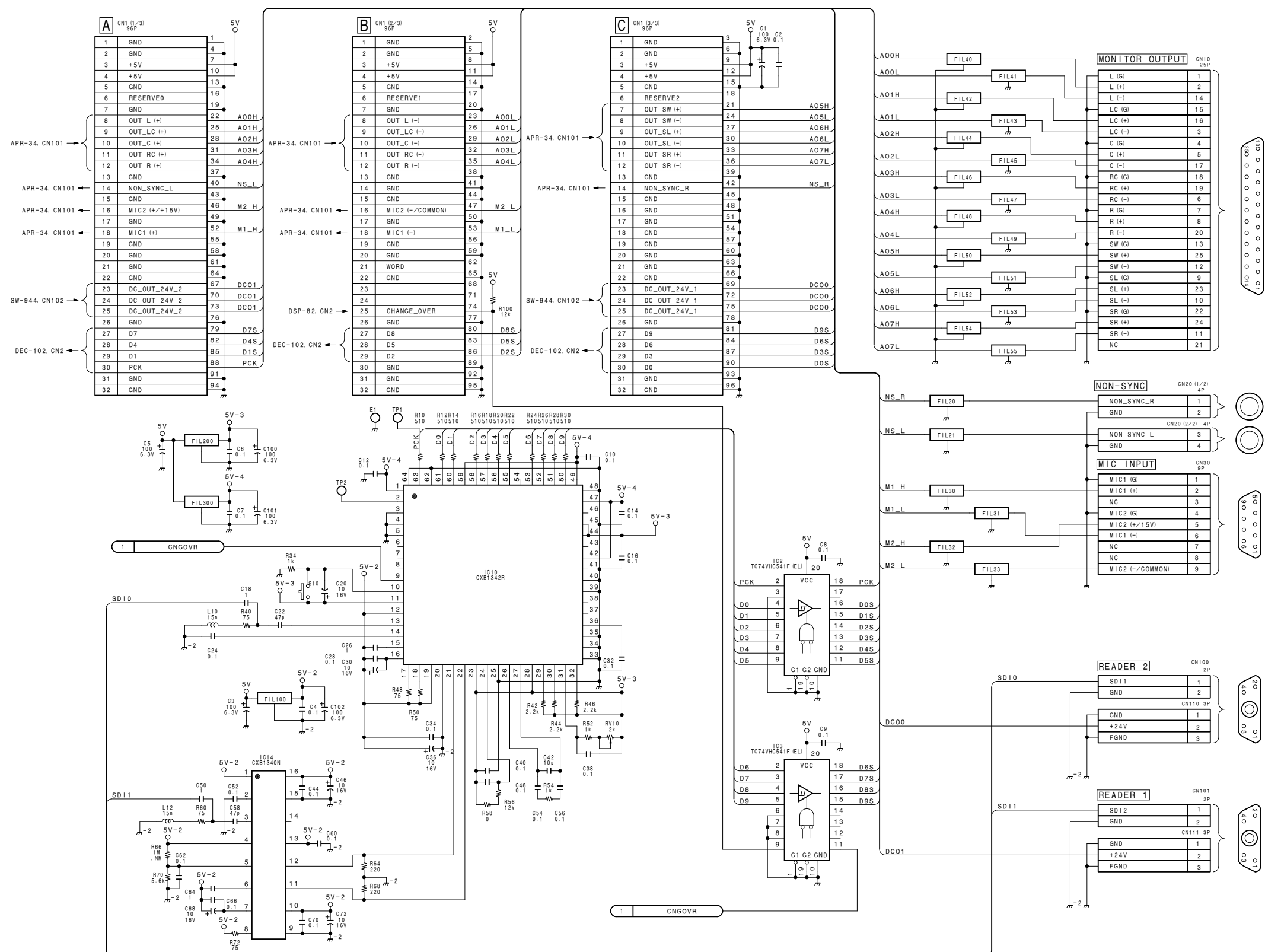
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DFP-D3000 (CE) : S/N 40001 and Higher





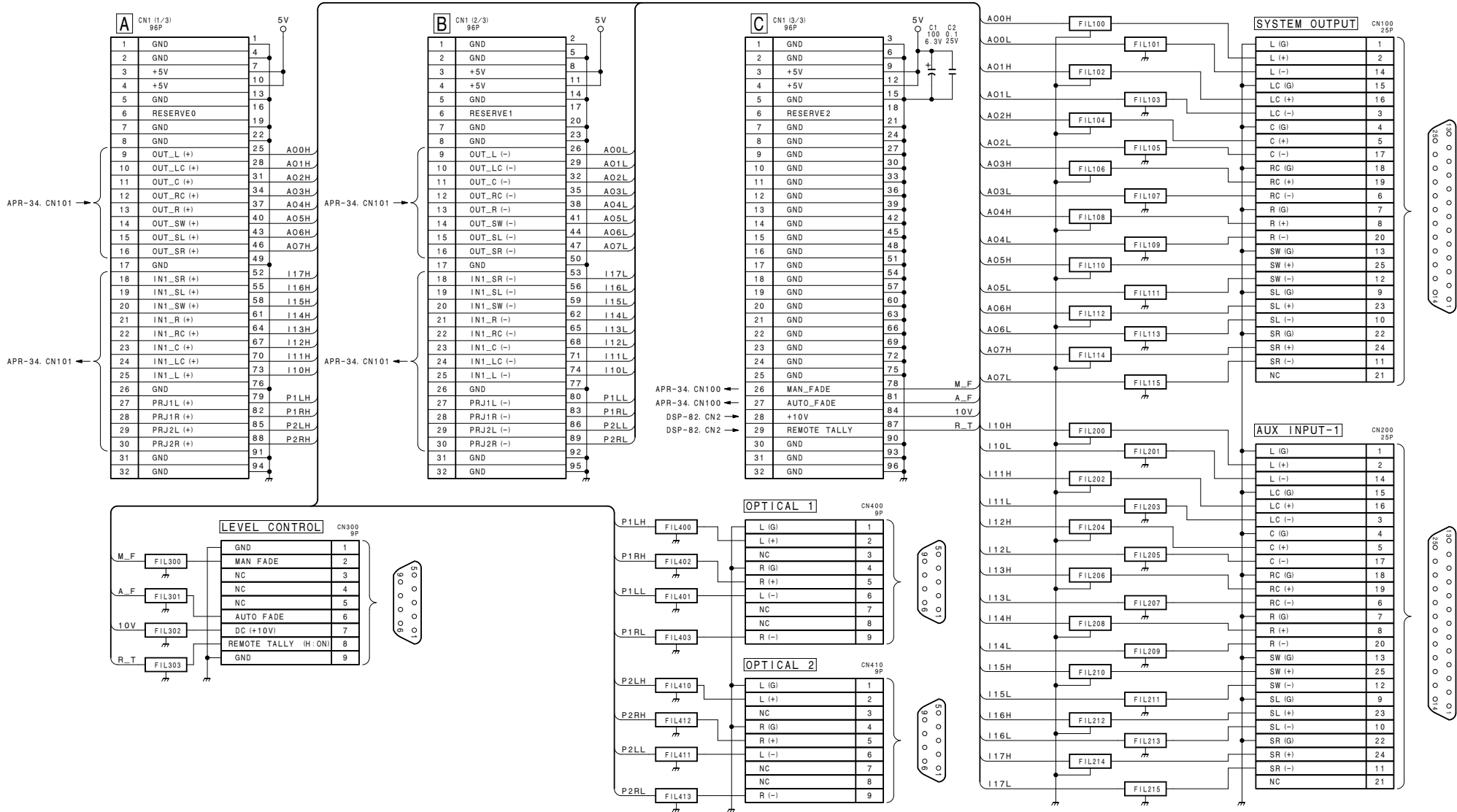
DIGITAL SIGNAL PROCESSING
DSP-82 (7/7)
BOARD NO. 1-669-023-11
B-YDFPD3000-DSP82-S/M

DFP-D3000 (UC) : S/N 10001 and Higher
DFP-D3000 (J) : S/N 30001 and Higher
DFP-D3000 (CE) : S/N 40001 and Higher



SDI INTERFACE
CN-1582
BOARD NO. 1-669-026-12
B-YDFPD3000-CN1582-S/M

DFP-D3000 (UC) : S/N 10001 and Higher
DFP-D3000 (J) : S/N 30001 and Higher
DFP-D3000 (CE) : S/N 40001 and Higher



DFP-D3000 (UC) : S/N 10001 and Higher
DFP-D3000 (J) : S/N 30001 and Higher
DFP-D3000 (CE) : S/N 40001 and Higher

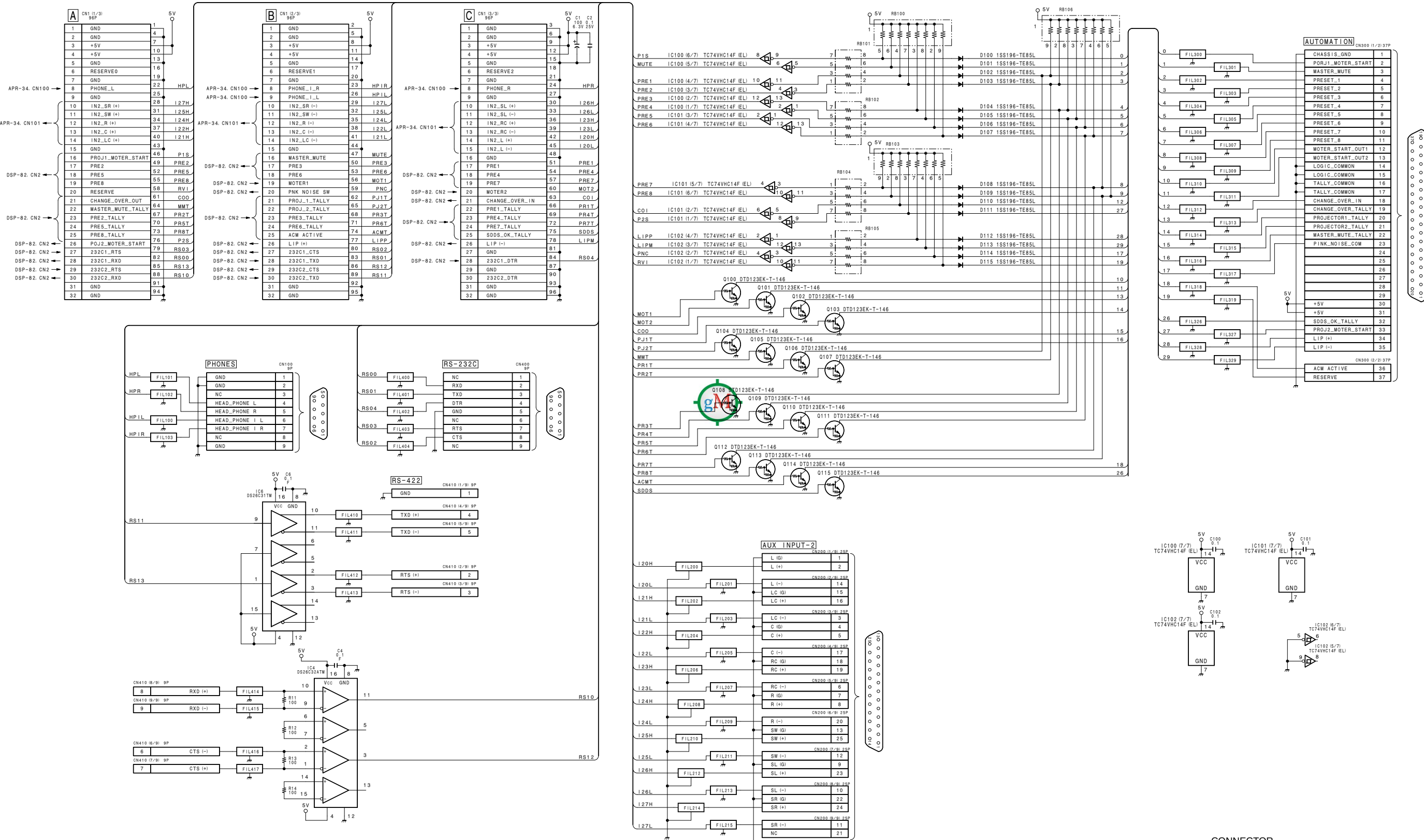
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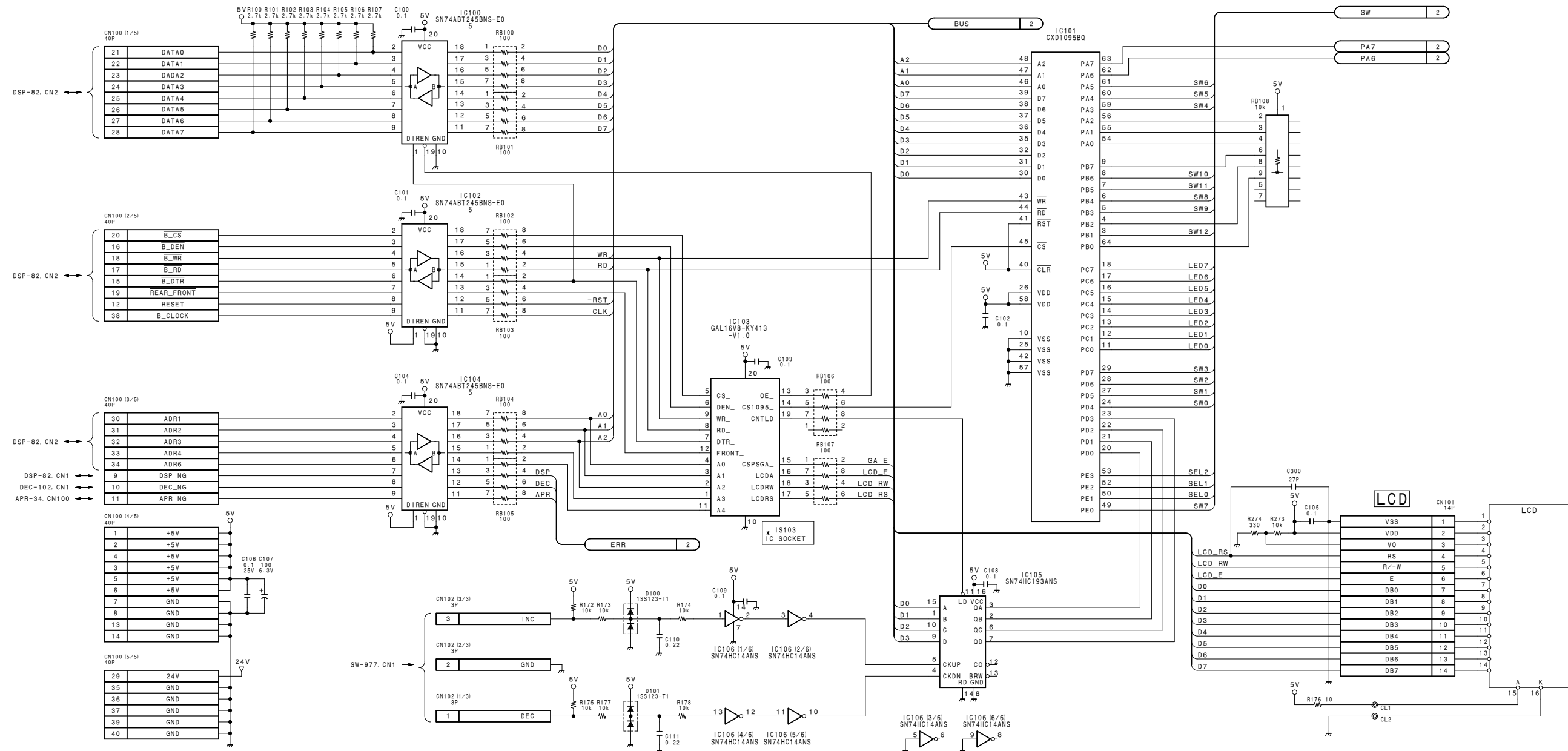
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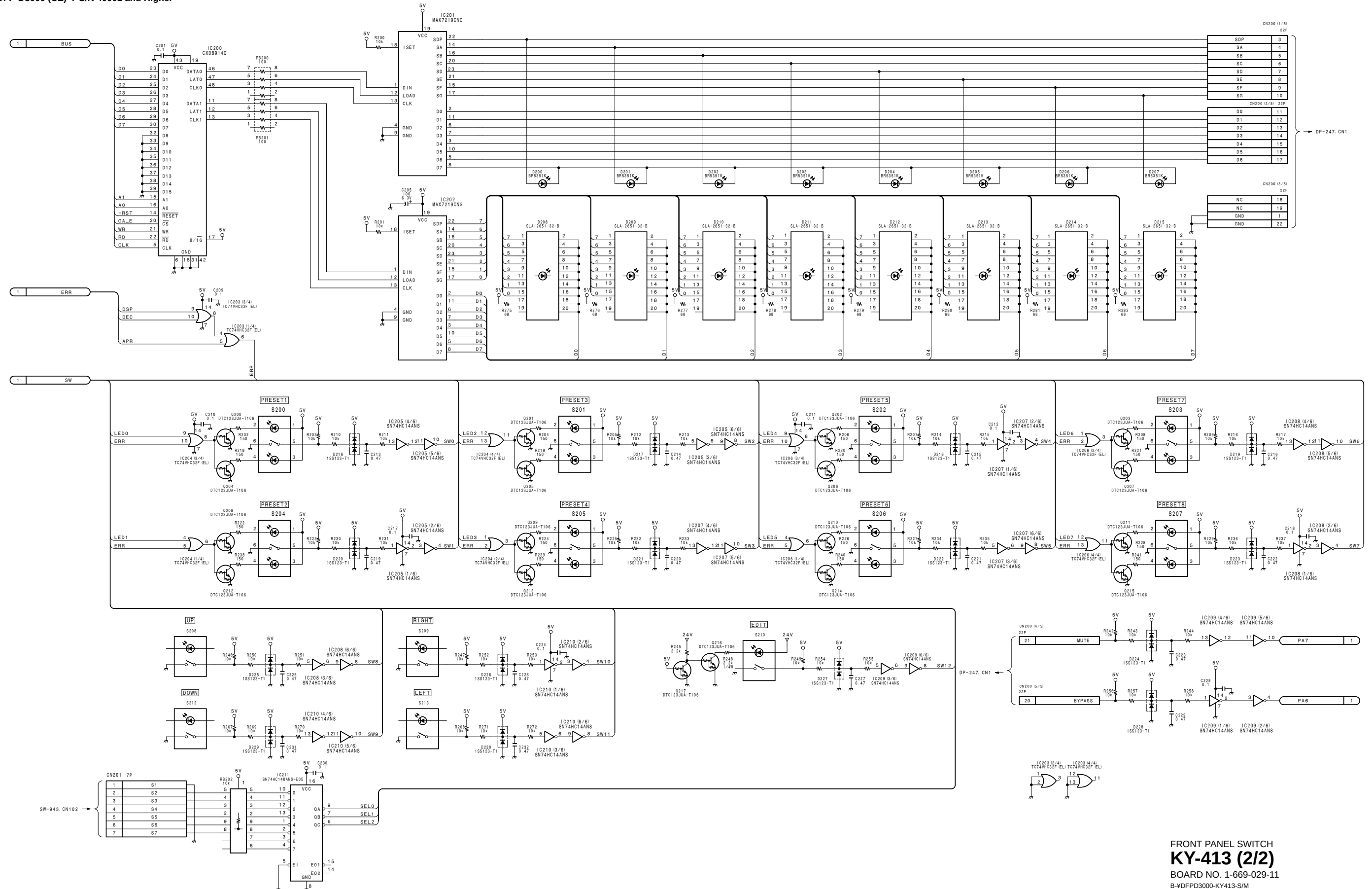


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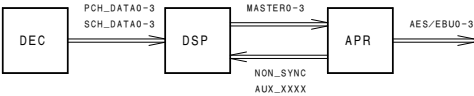
FRONT PANEL SWITCH
KY-413 (1/2)
BOARD NO. 1-669-029-11
B-YDFPD3000-KY413-S/M

DFP-D3000 (UC) : S/N 10001 and Higher
DFP-D3000 (J) : S/N 30001 and Higher
DFP-D3000 (CE) : S/N 40001 and Higher



FRONT PANEL SWITCH
KY-413 (2/2)
BOARD NO. 1-669-029-11
B-¥DFPD3000-KY413-S/M

DFP-D3000 (UC) : S/N 10001 and Higher
DFP-D3000 (J) : S/N 30001 and Higher
DFP-D3000 (CE) : S/N 40001 and Higher



BD_CHECK : OK->L
NG->H

	AD1	AD0
DSP	L	L
DEC	L	H
APR	H	L

DSP-82

DEC-102

APR-34

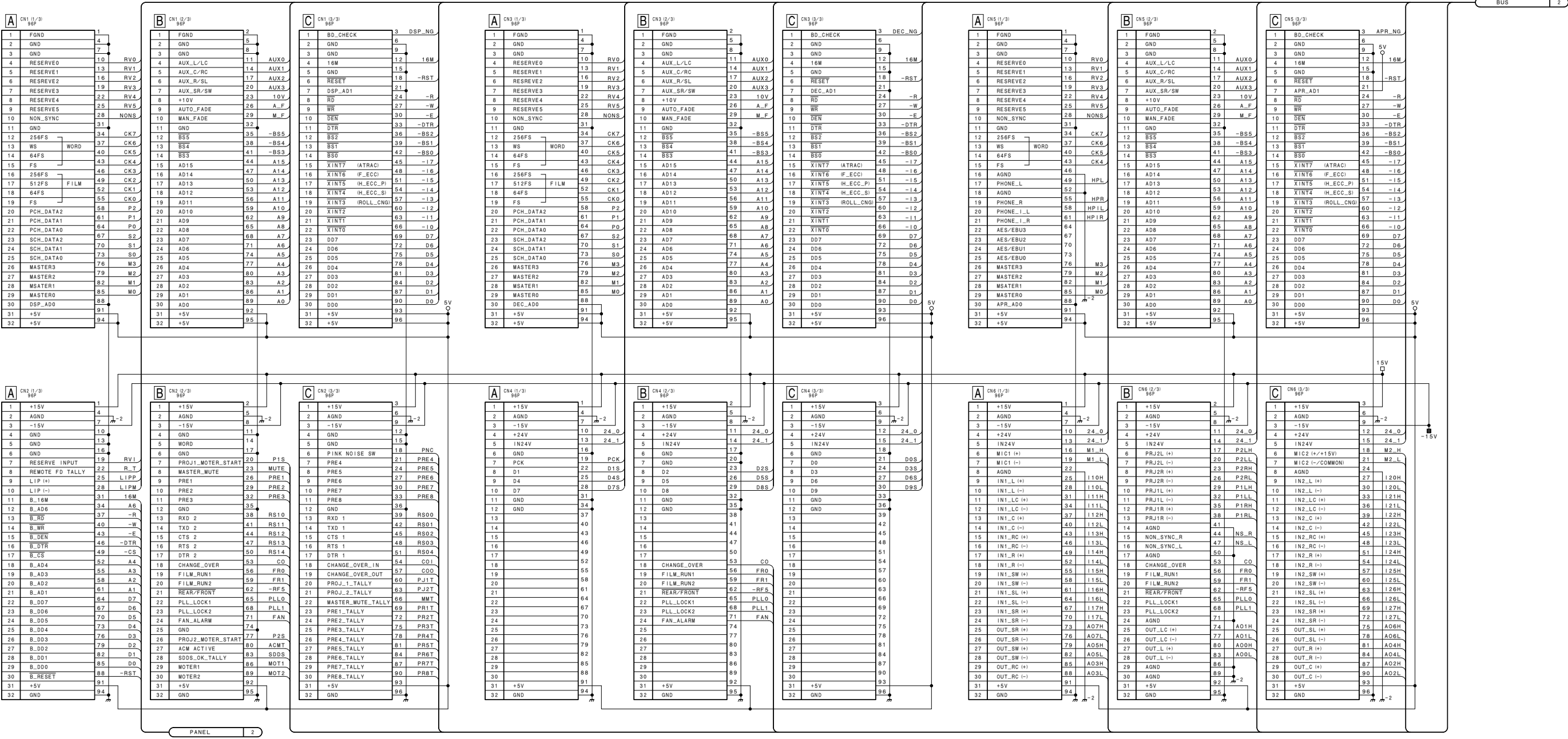
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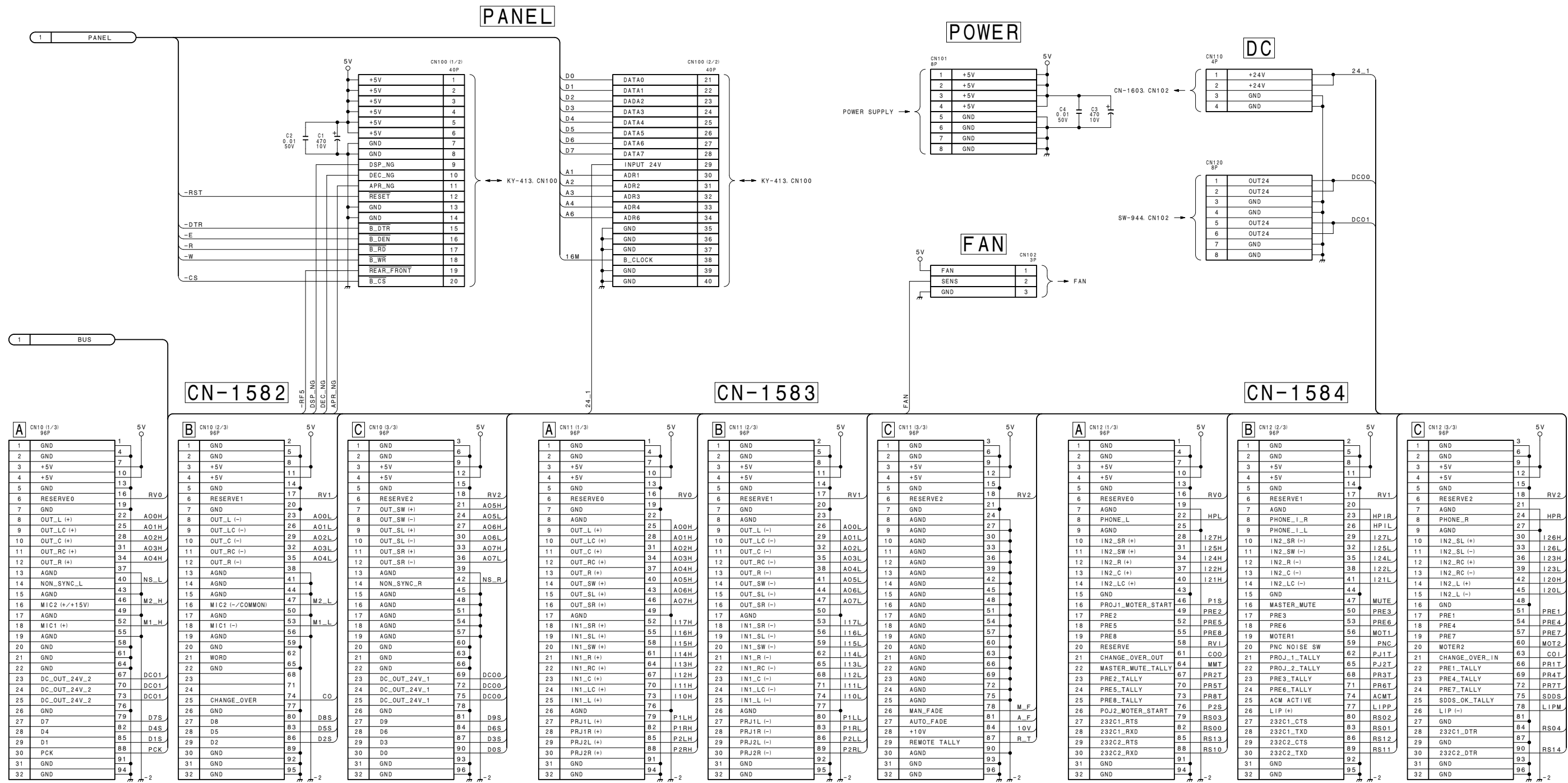
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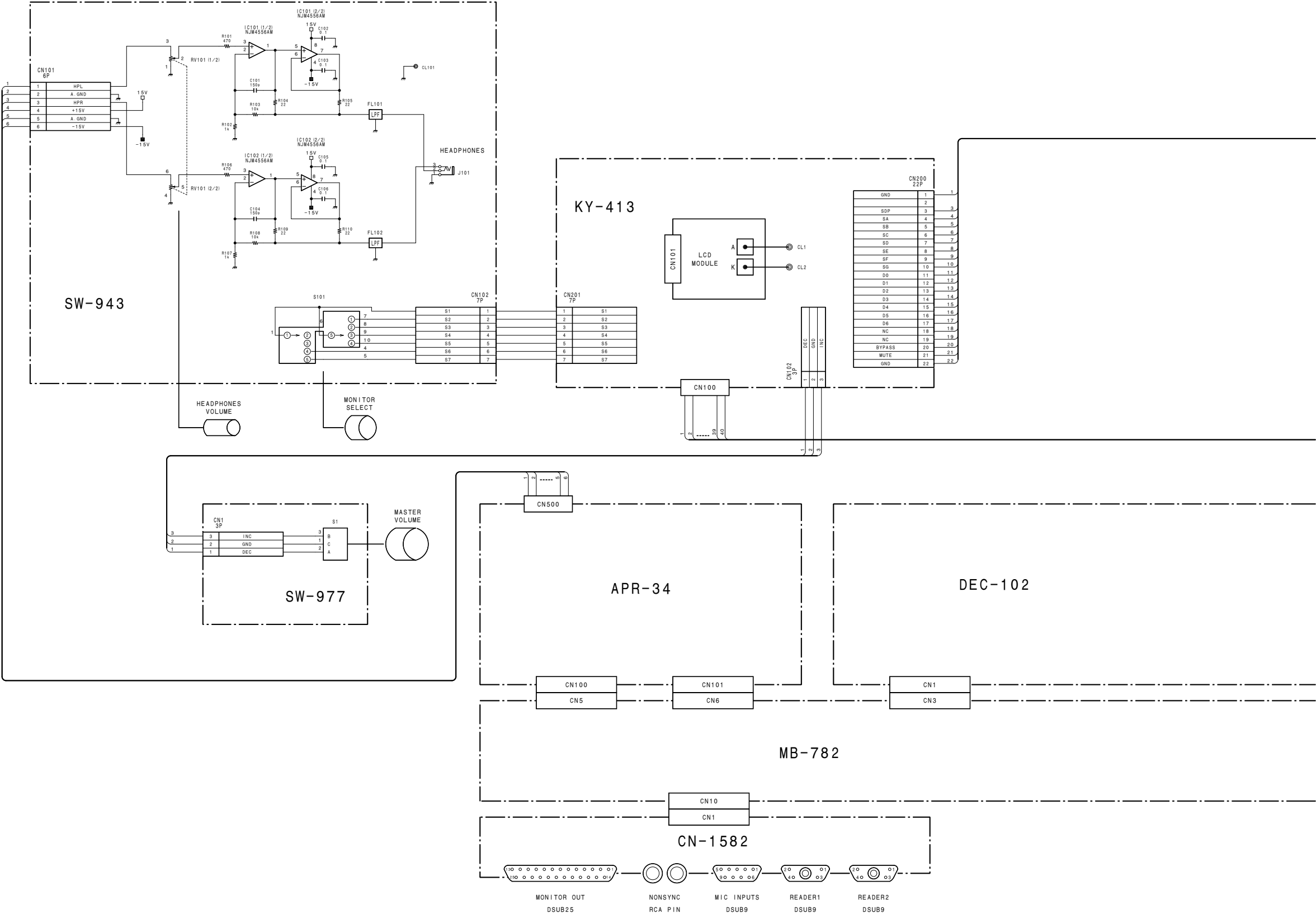
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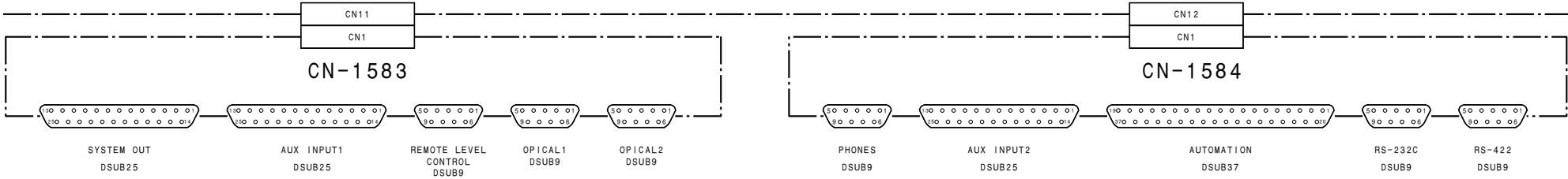
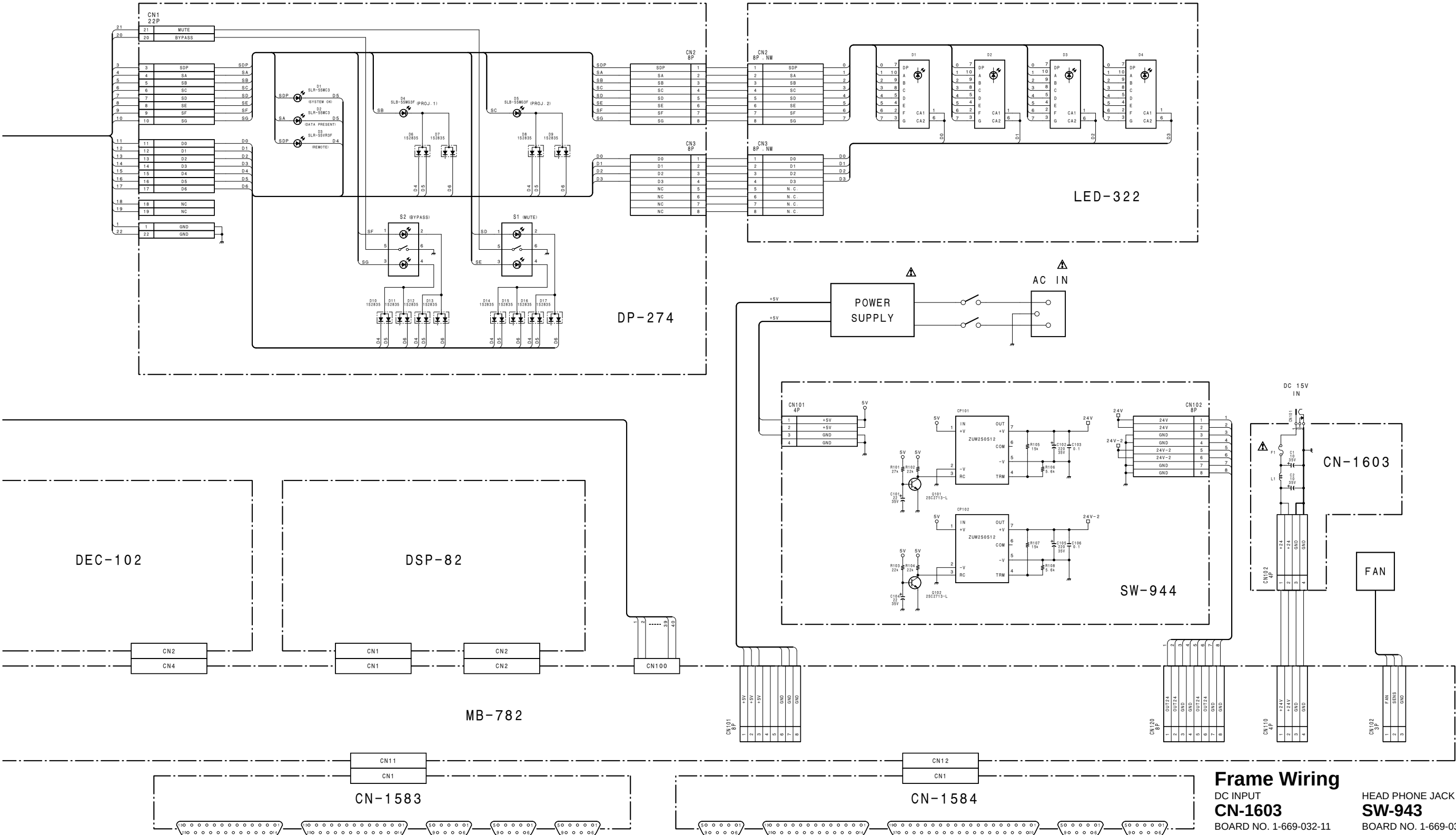


DFP-D3000 (UC) : S/N 10001 and Higher
DFP-D3000 (J) : S/N 30001 and Higher
DFP-D3000 (CE) : S/N 40001 and Higher



DFP-D3000 (UC) : S/N 10001 and Higher
DFP-D3000 (J) : S/N 30001 and Higher
DFP-D3000 (CE) : S/N 40001 and Higher





Frame Wiring	
DC INPUT CN-1603 BOARD NO. 1-669-032-11	HEAD PHONE JACK SW-943 BOARD NO. 1-669-030-11
DISPLAY DP-274 BOARD NO. 1-669-033-11	REGULATOR SW-944 BOARD NO. 1-669-031-11
LED LED-322 BOARD NO. 1-669-035-11 B-WDFPD3000-FRAME-S/M	MASTER VOLUME SW-977 BOARD NO. 1-669-036-11

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SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer :

Check the metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 3.5 mA. Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 5.25 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 20 V AC range are suitable. (See Fig. A)

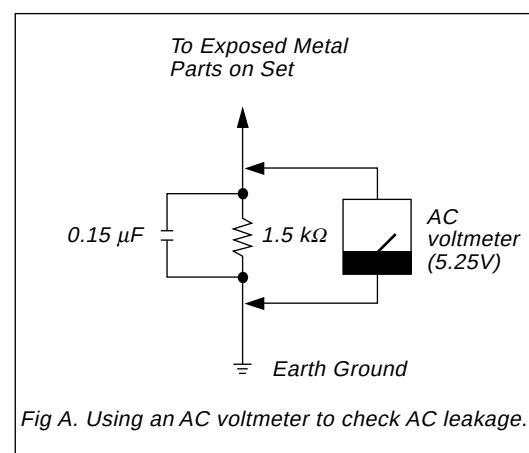


Fig A. Using an AC voltmeter to check AC leakage.

